DOCUMENT RESUME

ED 310 660 HE 022 723

AUTHOR Ewell, Peter T.; And Others
TITLE Establishing a Longitudinal Student Tracking System: An Implementation Handbook.
INSTITUTION National Center for Higher Education Management Systems, Boulder, Colo.
PUB DATE 88
NOTE 154p.
AVAILABLE FROM NCHEMS Publications, P.O. Drawer P, Boulder, CO 80302-9752 ($14.95).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS Academic Achievement; Academic Persistence; *Computer System Design; *Databases; Enrollment Trends; Higher Education; *Longitudinal Studies; *Outcomes of Education; *Program Implementation; Research Methodology; School Holding Power; *Student Records

ABSTRACT

Basic principles and techniques for constructing a student tracking system, either at the institutional or system level, are presented and illustrated. The design, development, and utilization of the LONESTAR (Longitudinal Student Tracking and Reporting) system are described. The system, which provides information on student achievement, program effectiveness, student retention and persistence, and enrollment behavior, is based on a cohort tracking methodology. The following topics are addressed: (1) basic design issues; (2) selecting and defining tracking system data elements (demographics, educational background, enrollment status, term tracking, follow-up elements, and derived data elements); (3) constructing and maintaining the tracking database; and (4) defining and generating system reports (institution-level and state-level reports; progress, performance and remediation status and evaluation reports; and interpreting results and using the database). LONESTAR data elements and sample pages from the LONESTAR data element dictionary are appended. (KM)

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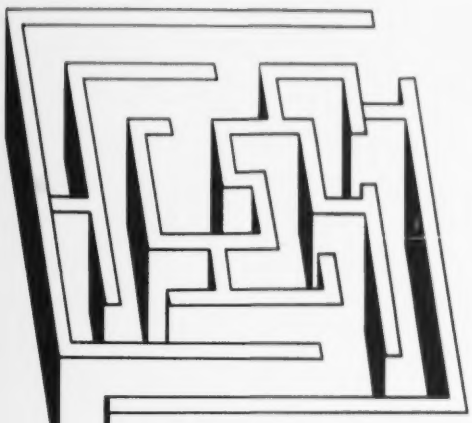
Establishing a Longitudinal



STUDENT TRACKING SYSTEM

An Implementation Handbook

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An Affirmative Action/Equal Opportunity Employer

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Chapter 1

Introduction

Pressures for assessing student outcomes and for demonstrating institutional effectiveness are coming from many quarters. In 1983, a highly critical report by the National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform*, raised many questions about the quality of postsecondary education across the United States. Subsequent reports on higher education amplified this concern, including those of the National Institute of Education Study Group on the Conditions of Excellence in American Higher Education (*Involvement in Learning*), the National Endowment for the Humanities (*To Reclaim a Legacy*), and the American Association of Colleges (*Integrity in the College Curriculum: A Report to the Academic Community*). A second wave of critical reports called attention to higher education effectiveness as a matter of state policy, including those of the Education Commission of the States Working Party on Effective State Action to Improve Undergraduate Education, *Transforming the State Role in Undergraduate Education: Time for a Different View*, and the National Governors Association, *Time for Results: The Governor's 1991 Report on Education*. Both waves of reports contained two themes in common. First, higher education in the United States must be improved if the nation is to maintain its competitive place economically, militarily, and politically. Quality in higher education has thus become an anchor point for issues of economic development and national competitiveness. A second theme stressed acquiring information on institutional effectiveness as a device for improving effectiveness at individual institutions and for enhancing policy oversight by legislatures and other branches of state government.

As part of a response to these concerns, many institutions and state systems are designing student tracking systems that monitor and report longitudinal enrollment behavior. The decision to construct a system of this kind recognizes that much of the data required to answer questions of institutional effectiveness may already reside in institutional data files. The major task is to organize it in ways that will allow for appropriate analysis and reporting. Using a longitudinal database, many important questions about institutional effectiveness can be directly

addressed. Examples include questions about student goal achievement, student retention, and the effectiveness of remedial programs in preparing students for successful participation in college-level courses.

The purpose of this *Handbook* is to present and illustrate some basic principles and techniques for constructing a student tracking system, either at the institutional or system level. The system used as an example throughout was constructed to meet a number of reporting needs. Specific requirements for the LONESTAR (Longitudinal Student Tracking and Reporting) system included

- a need to report on the instructional effectiveness of each institution to the Texas Coordinating Board for Higher Education and to other external constituencies;

- a particular need to evaluate and report on the effectiveness of the remediation function of community colleges as a primary access point to higher education in the state; and

- a need to collect accurate, detailed, institution-specific information on student retention, persistence, and enrollment behavior to support local planning and decisionmaking.

While implemented in the context of emerging state reporting requirements, the system was designed primarily to meet the individual management information needs of institutional participants. As such, it serves as an excellent illustration of how a sophisticated, permanent longitudinal-tracking mechanism can be established and maintained.

Because of considerable diversity in size, clientele, and program offerings among the 62 community colleges in Texas, and because many computerized student record systems are currently in place across the state using a variety of hardware and software configurations, a highly flexible approach was required. In brief, implementing LONESTAR involved development of

- a common methodology for identifying the types of students to be included in the system;

- common procedures for determining how individual tracking records were to be constructed, handled, and maintained;

- a list of commonly-defined data elements that all institutions were to include in the system;

- a set of optional data elements that institutions might include at their discretion;

- a set of recommended reports for local institutional use and for submitting information to the Coordinating Board; and

- a set of recommended procedures for installing and operating the system locally, using existing hardware and software.

After the initial design of these features was settled, NCHEMS provided a common procedures manual documenting the system and constructed a basic software system for optional adoption using a commonly available commercial statistical package (SPSS-X).

Like most tracking systems, the LONESTAR system is based upon a "cohort tracking" methodology. Every entering student is assigned to a tracking cohort based upon his or her first term of academic history, and remains a member of that cohort thereafter. Cohorts are identified by first term of active enrollment at the institution, as indicated by enrolling for at least one credit hour (or by officially registering for identified noncredit coursework if appropriate). The structure of LONESTAR's database involves compiling and manipulating data of several different kinds. A set of "fixed" data elements, drawn largely from a registration permanent record file, is collected once--at time of entry--and comprises the first portion of each longitudinal enrollment record. A set of "variable" data elements is recorded for each term that the student is enrolled and is maintained as the tracking record for each student. These are drawn from term enrollment files at the time of official "census date," and at the end of the term. Finally, an optional set of data elements on post-attendance behavior is specified. For this section, data are assumed to be obtained through student follow-up surveys, using commonly agreed-upon questions.

The outputs of the LONESTAR system are typical of most sophisticated student tracking databases. First, a set of standard reports for institutional use are generated as each cohort reaches the end of a designated tracking period. These reports are produced in a common format and include basic information on cohort performance. Reports can also be generated for any designated subset of students in the cohort. A second set of standard reports can be provided for periodic transmission to external audiences such as the State Coordinating Board for Higher Education. User-specified analytical reports can also be produced as needed using the LONESTAR tracking database in response to particular local questions and concerns.

Designing and implementing a system such as LONESTAR demands careful attention to a sequence of related issues. First, it is important to determine the purposes of the system; different intentions will drive quite different decisions about a series of basic design questions. Secondly, the actual data content of the system

must be determined, and decisions must be made both about the kinds of data elements to be included and about where the data will come from. Thirdly, procedures for extracting and manipulating data obtained from many sources must be devised, along with procedures for maintaining and manipulating the resulting longitudinal database. Fourthly, a series of reports must be determined that succinctly present tracking results in such a way that effective decisions can be made about curriculum and academic policy. Each major element of this general approach is described more fully in the chapters that follow. Throughout, the design decisions made and procedures used by LONESTAR are useful to illustrate more general principles of tracking system architecture and operation.

Chapter 2

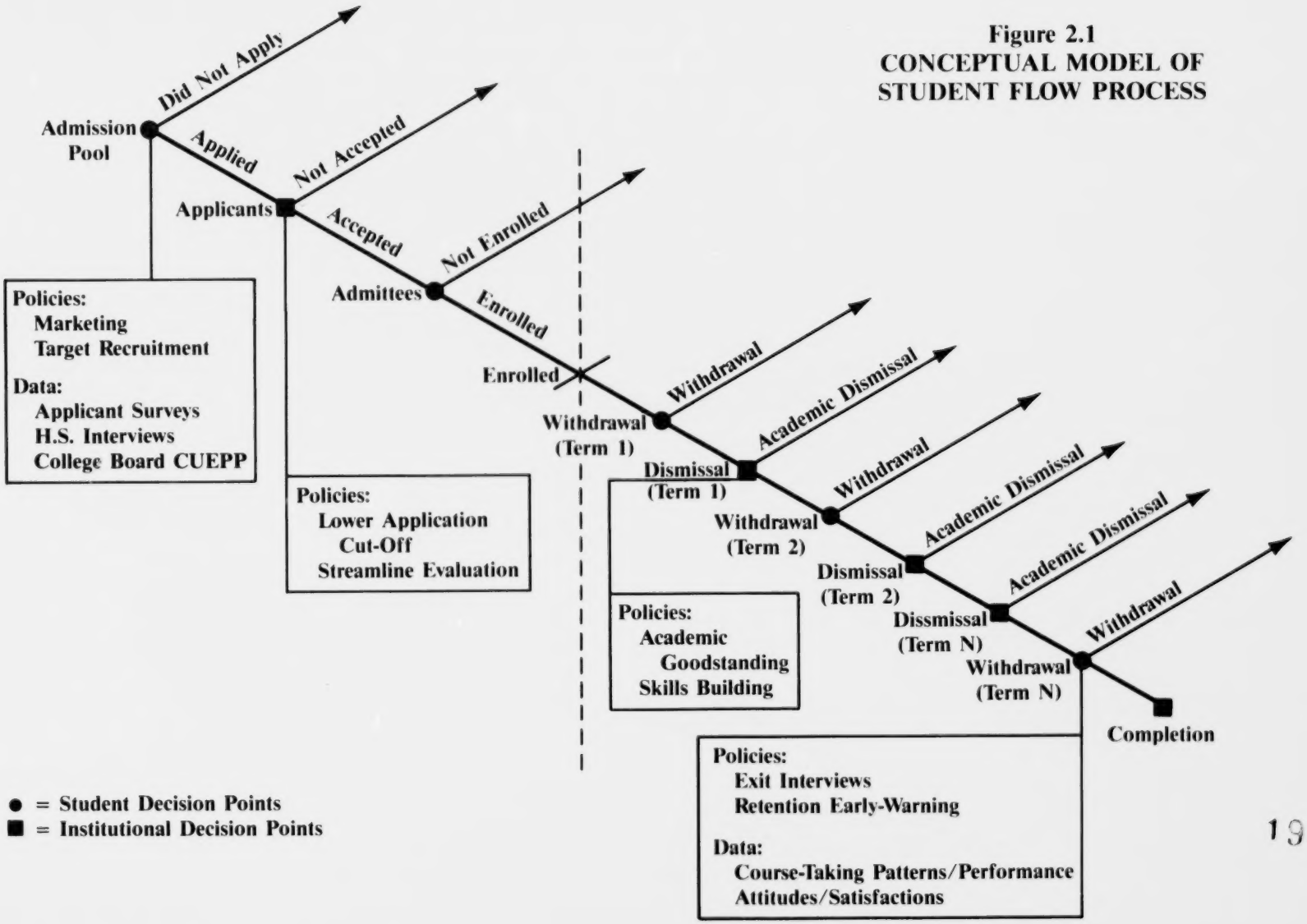
Basic Design Issues

Before developing a student tracking system, an institution must determine what kinds of data about students it most needs, and how often and under what circumstances the need for information arises. Answers to these questions can help to determine the most important design parameters of the system--which students it is to include, how often data about them are to be recorded, and in what detail their behavior is to be documented. Some institutions will include only those students seeking degrees, while others will include all students attending the institution. Some institutions will track only entering fall students, while others will include students entering in different terms. Finally, some institutions will include in the tracking database all information on courses taken, while others will include only summary statistics on student performance such as credit hours enrolled for and earned, and grade-point average. None of the answers to each of these questions is strictly right or wrong. Rather the correct answers depend upon what each particular institution is trying to accomplish.

1. **The Conceptual Basis of Student Tracking:** The conceptual requirements of a longitudinal student tracking system are straightforward, but may be difficult to fulfill in practice. Minimally, however, two capabilities are required: (a) construction and estimation of a comprehensive longitudinal picture of student progress that reflects the manner in which students of different kinds move into, through, and out of the institution, and (b) identification of a minimum number of distinct behavioral groups that together constitute the bulk of an institution's enrollment.

   Satisfying the first requirement demands a model that represents student progress through the institution as a set of linked events and decisions. Figure 2.1 presents an overview of such a model for a particular body of students. The model contains distinct components for both admissions and student persistence, but the two are linked in order to estimate the respective or simultaneous

Figure 2.1
CONCEPTUAL MODEL OF STUDENT FLOW PROCESS



impacts of changes in each of these areas. The logic of the model is to represent student progress as a series of discrete decision points through which each student must pass. At each decision point, a probability of successfully passing the decision point may be calculated from past trends. Furthermore, decision points are of two distinct types--those under the control of the student, and those determined by institutional action or policy. Matriculation rate and voluntary withdrawal are examples of the former, while acceptance rate and the rate of academic dismissal are examples of the latter. Together, these two types of decision points constitute a complete chain of events that operate in concert, and that determine the enrollment status of a particular group of students at a particular point in time.

Such models are of limited value if they do not take into account the different kinds of students typically found in an undergraduate population. Different kinds of students may behave in systematically different ways. It therefore may be necessary to build distinct tracking models (with quite different values for transition probabilities at each decision point) for different types of students. But what kinds of differences are important? How ought such sub-populations be defined?

Institutional researchers traditionally break down student population in two ways--demographically and by program area. Such breakdowns are generally done one at a time. Separate tracking analyses, for example, are commonly conducted for males and females, for the older and younger students, or by department or major. While this approach will certainly provide some insight, distinct behavioral groups will more often consist of combinations of such factors. A black male who is 18 to 21 years old and seeking entry-level occupational skills, for example, is far different from a white female liberal arts student attending part-time during the day to obtain a cultural enrichment experience. Appropriate tracking groups are therefore best identified by disaggregating total enrollment by a number of cross-cutting variables. Naturally the choice of such variables will depend on both the nature of the institution and the characteristics of the population under study. Figure 2.2, for example, shows such a multiple disaggregation for a small rural community college.

The right-hand side of this breakdown represents a set of logical possibilities for cross-cuts among a set of demographic and enrollment variables. Rarely will all such logical possibilities contain substantial numbers of students. Rather, students will cluster in certain categories that can then be reaggregated for analytical purposes. In the example shown, 96.2% of the population is accounted for by five behavioral groups. Each of these groups, once identified, was tracked separately.

Basic design issues involved in constructing longitudinal files and conducting analyses using the resulting data are fully described in the chapters that follow. Because of data limitations, analysts should be aware of two approximate methods for determining transition probabilities in a student flow model. The

Figure 2.2
BREAKDOWN OF SRC ENROLLMENT BY TYPES OF STUDENTS
FALL, 1980

LOCATION	PROGRAM	TIME	STATUS	SEX	
On Campus—76.7% ►	BA—36.1% ►	day—30.7% ►	FT—25.7% ►	M—12.8% F—12.8%	1
			PT—5.0% ►	M—1.9% F—3.1%	3
		eve—5.4% ►	FT—0.4% ►	M—0.2% F—1.2%	
			PT—5.0% ►	M—2.5% F—2.4%	4
	OCC—39.7% ►	day—36.5% ►	FT—28.5% ►	M—15.5% F—13.1%	2
			PT—8.0% ►	M—2.3% F—5.7%	3
		eve—3.2% ►	FT—0.2% ►	M—2.0% F—0.0%	
			PT—2.9% ►	M—2.0% F—0.9%	4
	DEV—0.9%				
Off Campus—23.3% ►	BA—8.8% ►	day—4.7% ►	FT—2.1% ►	M—0.5% F—1.5%	1
			PT—2.6% ►	M—0.8% F—1.8%	3
		eve—4.1% ►	FT—0.5% ►	M—0.4% F—0.2%	
			PT—3.5% ►	M—1.0% F—2.5%	4
	OCC—13.8% ►	day—12.4% ►	FT—7.8% ►	M—0.4% F—7.4%	5
			PT—4.6% ►	M—0.9% F—3.7%	3
		eve—1.4% ►	FT—0.1% ►	M—0.0% F—0.1%	
			PT—1.3% ►	M—0.5% F—0.7%	4
	DEV—0.7%				

1 = Full-time, Day, Transfer (27.1%)
2 = Full-time, Day, Occupational (28.6%)
3 = Part-time, Day, Program (20.2%)
4 = Part-time, Evening, Program (12.5%)
5 = Off-campus, Full-time, Day, Occupational (7.8%)

first uses current term information alone, and employs the student's first term of academic history at the institution to determine the number of currently enrolled "survivors" of an original entering cohort. The essence of this approach is to answer the question "how many students (of type A) entering the institution in term X were actively registered in term Y (the current) term?" While such an analysis will not yield individual student enrollment histories, it may allow approximation of the survival rates of different student populations from term-to-term. It is also important to note that the analysis depends upon the integrity of the first term of academic history data element stored in the student record; many student record systems "update" this element to reflect readmission, change in program or degree sought, or some other change in condition. Changes of this kind will eliminate the possibility of using this data element to identify a student's actual first term of enrollment.

A second approximation method involves calculating a term-to-term survival estimate on the basis of total enrollment and graduation figures. Persisters from the immediately preceding term are estimated as the total number enrolled in the current term, less those graduating at the end of the immediately preceding term, less those newly admitted or readmitted at the beginning of the current term. In essence, this method answers the question "how many of those who enrolled last term also enrolled this term and did not graduate?" Both methods will allow approximate estimation of term-to-term persistence for different student population groups. Neither will allow detailed investigation of the historical dynamics of enrollment flow.

2. **The Data Requirements of Student Tracking**: Cohort survival models are relatively easy to describe, but it may prove a challenge to obtain the data needed to estimate them. Experience has shown that the best way to meet this challenge is to construct a set of discrete longitudinal tracking files for particular entering cohorts of students--files that contain a student-by-student enrollment history for members of the cohort over a designated number of consecutive terms. This is the approach followed by LONESTAR and described in the balance of this *Handbook*. The data in such files enables the analyst to answer the question "What is the enrollment pattern of each individual in the cohort?" Construction of such a file depends upon the availability of "frozen file" student record information for a number of past terms of enrollment. If frozen files are not immediately available, an alternative is to obtain past census date enrollment records and create them.

   Most student tracking systems of this kind share a number of characteristics. Every entering student is assigned to a unique tracking cohort based upon his or her first term of academic history, and remains a member of that cohort thereafter. Separate files are maintained for each cohort, and all reporting is on a cohort basis. Cohorts are identified by first term of active enrollment history at the institution as indicated by enrolling for at least one credit hour. Complete

cohorts of entering students in a given term, rather than sample cohorts, are generally used in order to provide credible program-level statistics.

The structure of each cohort data file involves data of several different kinds drawn from existing student records (see figure 2.3). A first set of data elements, drawn largely from a registration permanent record file, is compiled once--at time of entry--and comprises the first portion of each longitudinal student enrollment record. Types of data elements generally included in this fixed portion of the record are data on demographics, educational background, basic skills and need for remediation, and on initial enrollment status. Additional data elements are added to the record at two points during every term that the student is enrolled. One set of elements is drawn from term enrollment files at the time of official census date, and reflect student enrollment behavior up to that point. Types of data elements included are program enrolled for and hours attempted in all and in non-remedial coursework. Another set of elements is added at the end of the term, and reflect student performance. Types of data elements included are hours completed in all and in non-remedial coursework, remediation status, and remediation performance. Finally, an optional set of data elements on post-attendance behavior is specified. For this section, data are assumed to be obtained through student follow-up surveys.

The tracking database itself is documented as though it were composed of "fixed format" records--one for each student in each cohort. According to this fixed format structure, all tracking information on a given student is maintained in a single record, with portions of the record corresponding to potential terms of enrollment. If a student is not enrolled for a given term, the portion of the record corresponding to that term is left blank. The assumption of a fixed format record structure is usually made for ease of communication and to facilitate the use of commercial statistical packages in generating reports and manipulating data.

Outputs of such a system are of several kinds. First, a set of standard reports for institutional use is usually generated as each cohort reaches the end of a designated tracking period. Reports at the end of each year are generated regularly, with additional time periods determined by ongoing experience with the system. These reports are produced in a common format and include basic information on cohort performance. If a statistical software package is used, these reports can also be easily generated for any designated subset of students in the cohort. User-specified analytical reports can also be generated from the tracking database as needed in response to particular local questions and concerns. These are generally not produced in a common format, but are generated by reading the database with statistical software to perform the required analyses. Examples of such "need-based" analyses include:

- "stop-out" studies to investigate patterns of interrupted enrollment;

Figure 2.3

BASIC STRUCTURE OF A LONGITUDINAL STUDENT TRACKING RECORD

Fixed Data Elements	**ID #** **Basic Demographic Data** **Educational Background Data** **Enrollment Status Data**
Term Tracking Elements for Term T	**Term ID** **Academic Activity** **Academic Performance** **Remediation Status**
Term Tracking Elements for Term T + 1	**Term ID** **Academic Activity** **Academic Performance** **Remediation Status**
Term Tracking Elements for Term T + n	**Term ID** **Academic Ability** **Academic Performance** **Remediation Status**
Follow-Up Elements (optional)	**Transfer Performance Information** **Job Placement Information**

Where Term T = First Term of Academic History

- load studies to investigate changing patterns of student loads from term to term to determine if particular groups of students are "over-enrolling" and consequently setting themselves up for failure;
- remediation studies to determine when and in what order students remedy assessed deficiencies; and
- "early warning" studies to identify high-risk students at an early point through a combination of demographic, ability level, and enrollment behavior patterns.

3. **Establishing a Basic Design**: Four fundamental design issues frame the choices that must be made in developing any student tracking system. Each can be illustrated by a set of design decisions made in the development of the LONESTAR system. The *completeness* issue concerns which types of students should be included in the system. Because many non-traditional students are single-term enrollees, some institutions elect only to track those students who are seeking degrees, or only those who express an intention to persist for more than one term. In the LONESTAR system, the following decisions on completeness were made:
   - all students enrolled for credit will be tracked;
   - all GED and ESL students will be tracked;
   - students enrolled in a noncredit program with more than 360 clock hours in continuing education programs will be tracked;
   - all other noncredit continuing education students will not be tracked;
   - tracking will occur over all enrolled terms, including summer terms;

   The *commonality* issue arises whenever a multi-institutional project is undertaken. The basic question is the degree to which all participants will be operating a similar system with respect to data coverage, definitions of data elements, calculational procedures used, reports generated, and hardware/ software configurations needed to manipulate records and produce reports. In designing the LONESTAR system, discussions with a multi-institutional steering committee indicated a considerable range of needs and capabilities among the colleges expected to participate in the system. As a result, the following agreements were reached:
   - the system will contain a required set of data that all institutions will use and maintain;
   - the majority of these data elements will be commonly defined, using standard national or state reporting definitions wherever possible;

- some data elements will be required for inclusion in the system, but will be defined locally within the coding parameters of the system;
- additional data elements may be added to the system at the discretion of each participant. Wherever possible, optional data elements or modules will be commonly defined using available standard definitions;
- the system will produce a minimum set of common reports for institutional use and for reporting to the State Coordinating Board. However, a range of varying local reports or analyses will be possible;
- the system will calculate such performance parameters as persistence, "drop-out," and completion in a fashion common to all institutions;
- a set of common specifications will guide local implementation of the system, but it is expected that each institution will implement the system using its own hardware/software configurations, so long as these produce comparable results;
- NCHEMS will build a common, easily-adapted, basic system using an available commercial statistical package.

The *coverage* issue concerns what data elements actually to include in the system, and which of these to track actively over time. The major trade-off on this decision is the level of detail for tracking versus the size of the database. Data elements to be tracked each term must be of sufficient importance to warrant inclusion in the database. Discussions of this issue in the design of LONESTAR centered around the need to assess the effectiveness of remediation without creating individual student record files of inefficient size and complexity. Agreements reached were the following:

- the system will include a minimum set of tracking data elements described in a following section;
- remediation treatment and outcome will be handled by means of a set of specially-constructed indicator variables to be recorded each term. Provision will also be made for recording actual student performance on state-mandated basic skills tests;
- data elements will be read from frozen file records at the beginning and end of each term.

The *coordination and control* issue addresses the question of who will be responsible for the day-to-day management and operation of the system. LONESTAR design discussions emphasized that the system was to be primarily of value to individual institutions. At the same time, the system is intended to fulfill some common needs for reporting consistent performance information. Similarly, some kinds of data--particularly senior institution follow-up or high

school feedback data--might be more efficiently generated or disseminated centrally than by each institution individually. At the steering committee meetings, the following agreements were reached:

- responsibility for implementing, maintaining, and operating the system would remain with each institution;
- all participants would agree to abide by a common procedures manual specifying data definitions, calculational routines, and report formats;
- responsibility for overseeing common procedures would rest with a users' coordinating committee; any changes in common procedures or definitions would require approval of this committee. Responsibilities of the users' committee would also include coordinating or providing technical assistance with respect to the maintenance and operation of the system;
- the role of the State Higher Education Coordinating Board would be limited to the receipt of periodic reports generated in common by institutional participants;
- some data (for example, senior institution follow-up or high school feedback on student performance) might be more effectively handled through a central mechanism.

Following resolution of each of these four issues, the basic design features of the LONESTAR System were collectively determined. In sum, they are as follows:

a. **Cohort Definition and Identification**: All students enrolled for credit are included in the system. In addition, all students enrolled in ESL and GED programs are tracked, as are students who have enrolled for more than 360 clock hours in state-funded non-credit continuing education programs. Students included in the system are a part of one and only one entering cohort defined by the first term of active enrollment. Institutions maintain distinct cohort files for each such beginning term, and tracking records are maintained for all the students in the cohort for all subsequent terms of potential enrollment. Summer terms are included in the system, but institutions with multiple summer terms include all entering summer students in a single tracking cohort each year and treat all summer activity as a single term. For students registering in "mini-mesters" or other non-regular terms, term designation for both cohort identification and tracking purposes follows the same principles as local assignment of these students to terms in regular state enrollment reporting.

b. **Required and Optional Data Elements**: The system contains a set of required data elements that all institutions use and maintain. The majority of these data elements are commonly defined, using standard national or state definitions. Current Texas data standards used in Coordinating Board reporting have been used wherever possible, and take precedence over both national and local definitions. Some data elements are required for inclusion in the system, but are defined locally. In addition to required elements, the system includes a set of "optional" elements that institutions may use at their discretion. Common definitions and coding structures are provided for both required and optional data elements, and are described in a formal *Data Element Dictionary.* It is expected that for many students--particularly non-credit students--some "required" data elements will not apply or will otherwise be missing. It is not the intention of the system to markedly increase data collection. If it is not necessary or customary to collect certain types of data from non-credit students, missing data is considered appropriate and does not constitute a problem. Reasonably complete data on required elements is expected for all students enrolled for credit.

c. **File Layout and Construction**: The basic unit of the tracking system is a student longitudinal enrollment record. This record is established at entry, and elements are added to it for each term of potential enrollment throughout the tracking period. The layout of the student longitudinal enrollment record is presented with the assumption that it consists of a single fixed-format record. The fixed portion of the record is obtained from the student master data file on establishment of the record as part of a given cohort tracking file. Variable portions of the record are reserved for each subsequent term of potential enrollment, and are drawn from term enrollment files in the student database as part of an update procedure accomplished each term.

d. **Reporting and Analysis**: The system is designed to produce a minimum set of common performance reports for institutional use and for periodic reporting to the Coordinating Board. At the same time, the tracking database may be used to undertake a wide range of additional reports or *ad hoc* analyses in support of institutional planning or evaluation. All performance statistics (for example, persistence, drop-out, etc.) are calculated by the system in a common fashion, and common report formats are used for presenting such statistics.

Chapter 3

Selecting and Defining Tracking System Data Elements

Depending on institutional needs, the actual data content of a longitudinal cohort file can vary considerably. A major question, therefore, is what data elements to read and record each term. At minimum, each record should contain information on enrollment status, on hours attempted and completed, and on grade/probationary and other performance information for each term. Given institutional needs, many other elements might be tracked. In designing LONESTAR, for example, elements had to be included each term that would enable performance in remediation to be meaningfully assessed. Because space must be reserved for each such element in each term in the tracking period, every additional element will considerably increase the size of the tracking file. Consequently they must be selected with care.

Student tracking data drawn directly from registration record files provide a powerful tool for documenting patterns of student enrollment behavior. By analyzing such patterns by subpopulation, and by correlating them with student demographics and with such factors as academic performance or time of attendance, a great deal of insight can be gained about the reasons students behave as they do. But inferences are necessarily limited because they do not tell us the "why" of student behavior. Nor do they provide the answers to important questions about subsequent behavior after the student has left the institution. Administering survey questionnaires in conjunction with longitudinal tracking studies can help illuminate some of the reasons behind revealed behavior, and can yield data on this critical missing component of longitudinal tracking. Both kinds of data sources are tapped by LONESTAR.

Data collected by survey must also be stored and maintained. Decisions must be made on how and whether to physically integrate such information with longitudinal student data files. Some institutions, for example, reserve data fields in their longitudinal cohort files for the inclusion of responses to important survey questions. Others maintain survey information in separate files, and use a linking element (such as student number) to tie survey responses to enrollment behavior.

Still others maintain no link between such files, and simply use questionnaire data to explore hypotheses suggested by longitudinal tracking studies.

Four distinct types of data elements are generally typical of student tracking systems, and each is handled in a somewhat different way.

- **Fixed data elements** are those which never vary. Most are demographic--for example, gender, or date of birth--but they can also include such elements as high school performance or last prior college. Generally these elements are extracted from the term file that corresponds to the student's first term of academic history. All such data should be periodically checked against more recent information because recent corrections are rarely posted to past term files. Without a check of this kind, errors made on initial entry may persist in the database throughout the tracking period.

- **Variable data elements** are those which must be recorded and tracked each term. Examples include enrollment status, hours attempted and earned, term GPA, probationary status, and occasionally, student major. These elements are read successively from historical term files throughout the tracking period, and each record will contain an entry for every term. Blanks are generally recorded in these fields for terms in which the student was not enrolled.

- **Semi-Fixed data elements** are those which occasionally vary in the course of a student's enrollment, but which do not do so systematically. These include demographic elements (for example, marital status, or employment status) and enrollment elements (for example, program major, residence status, and day/evening attendance). Perhaps the biggest decision involved in constructing a longitudinal tracking file is how to handle such elements. If changes in these elements are important, they may be treated as variable, and are recorded as such each term. Because this can vastly increase file size if many such elements are tracked, the decision is often made to treat some elements of this kind as fixed. This is often done, for example, for demographic elements such as employment status and marital status. In this case, the value of the element is taken for the student's first term of academic history only, and is assumed to remain the same throughout the tracking period.

- **Derived elements** are those that are calculated from others in the file for particular analytical purposes. Examples range in complexity from student age (derived from date of birth), to such

factors as course completion rates (derived from cumulated hours attempted and earned). Derived elements are generally not physically maintained in longitudinal record files, but are calculated by statistical packages on an as-needed basis. If calculations are complex and large numbers of people are using the file for analytical purposes, it may be efficient to calculate such elements at a single point in time and to maintain them as an integral part of the file.

The balance of this chapter provides a complete set of definitions and descriptions for each data element used in LONESTAR. Where subcategories of the elements are appropriate, each subcategory is also listed and defined. Sources for these definitions, where supplied, are as follows:

EDC - Texas Educational Data System

IPEDS - Integrated Postsecondary Education Data System/Higher Education General Information Survey (HEGIS)

COPA - Council on Postsecondary Accreditation - recommended data collection standards

CES - Center for Education Statistics - definitions for national reporting

NCHEMS - National Center for Higher Education Management Systems - definitions recommended for institutional use

In a few cases, LONESTAR required institutions to establish new data collection procedures. In most cases, existing registration records contained the required information, though recode procedures were often needed to render available data compatible with common system specifications. For example, all participating institutions used a gender element in their student history files, but it was sometimes coded numerically and sometimes alphabetically; to provide for commonality, a single numeric code was specified for LONESTAR.

In order to document data sources, definitions, and formats, a formal codebook was established for use as a common *Data Element Dictionary*. This document, highly recommended as a part of any tracking system, contained descriptive and coding information for all data elements. It also contained space in which each institution could document the location of each data element in its own permanent record system and the procedures used for collecting and maintaining each element. Sample pages from LONESTAR's *Data Element Dictionary* are provided as Appendix B.

Data Elements Used in the LONESTAR System

Demographics

Required

1. **Student Identification Number.** Social security number of the student. The institution will assign a unique nine-digit identification number to each student without a social security number. (EDC)

2. **Gender.** The gender of the student. (COPA)
   a. **Male.**
   b. **Female.**

3. **Date of Birth.** The last two digits of the year, month, and day of the birth of the student (YYMMDD). (EDC)

4. **Race/Ethnic Identification.** Categories used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. A person may be counted in only one group. (IPEDS)
   a. **White, Non-Hispanic.** A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
   b. **Black, Non-Hispanic.** A person having origins in any of the black racial groups of Africa.
   c. **Hispanic.** A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
   d. **Asian or Pacific Islander.** A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or Pacific Islands.
   e. **American Indian or Alaskan Native.** A person having origins in any of the original peoples of North America who maintains cultural identification through tribal affiliation and community recognition.
   f. **Nonresident Alien.** A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

5. **Citizenship**. The citizenship classification of a student at time of entry to the institution. (COPA)

   a. **United States Citizen.**

   b. **Foreign National.** A citizen of a country other than the U.S.

      (1) **Nonresident Alien.** A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

      (2) **Resident Alien.** Non-citizens who have been lawfully admitted to the United States for permanent residence and who hold a "green card" (Form I-151).

6. **Residence at Time of Entry.** The officially recognized residence of a student at the time of first admission to the institution. Typically, this will be determined by the student's tuition classification or other registration records. Students who are resident or non-resident aliens will retain a "foreign" designation regardless of whether they have a local address. (IPEDS and COPA)

   a. **In-District.** Students legally domiciled within the district of the postsecondary institution at the time of first admission to the institution.

   b. **In-State.** Students legally domiciled in Texas but out of the district at the time of first admission.

   c. **Out-of-State.** Students legally domiciled in a state other than Texas at the time of first admission. (Foreign students are not included in this category.)

   d. **Foreign.** Students legally domiciled in a country other than the United States at the time of first admission.

7. **Physical Disabilities.** Students evaluated as having any one of the following impairments, who because of those impairments need special education and related services.

   a. **Deaf.** A hearing impairment so severe that the student is hindered in processing linguistic information through hearing, with or without amplification, which adversely affects educational performance.

   b. **Deaf-Blind.** Concomitant hearing and visual impairments the combination of which causes such severe communication and other developmental and educational problems that they cannot be accommodated in special education programs solely for deaf or blind students.

   c. **Hard of Hearing.** A hearing impairment, whether permanent or fluctuating, which adversely affects a student's educational performance but which is not included under the definition of deaf.

d. **Orthopedically Impaired**. A severe orthopedic impairment which adversely affects a student's educational performance. The term includes impairment caused by congenital anomaly, disease, and from other causes.

e. **Other Health Impaired**. Limited strength, vitality, or alertness, due to chronic or acute health problems such as a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes, which adversely affects a student's educational performance.

f. **Speech Impaired**. A communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, which adversely affects a student's educational performance.

g. **Visually Handicapped**. A visual impairment which, even with correction, adversely affects a student's educational performance.

8. **Learning Disability**. A disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental asphasia. The term does not include students who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or of environmental, cultural, or economic disadvantage. (CES)

9. **Economically Disadvantaged**. A student whose family income is at or below the national poverty level, a student (or parents) who is unemployed, on public assistance, or is institutionalized or under state guardianship and who requires special services, assistance, or programs, in order to enable that person to succeed in a vocational program. This is a self-reported item historically collected only for occupational students. (VEDS)

10. **Academically Disadvantaged**. A student who lacks reading skills, writing skills, mathematical skills, or who performs below grade level, and who requires special services, assistance, or programs, in order to succeed in a vocational program. This is a self-reported item historically collected only for occupational students. (VEDS)

11. **Current Employment.** Describes the current employment situation of the student. (NCHEMS)
    a. **Employed Full-Time.** Employed for 35 hours per week or more.
    b. **Employed Part-Time.** Employed for less than 35 hours per week.
    c. **Employed as Homemaker.**
    d. **Not Employed, Seeking Work.**
    e. **Not Employed, Not Seeking Work.**

Optional

1. **Zip Code.** Five-digit code that identifies each postal delivery area in the United States. (NCHEMS)

2. **Highest Level of Education Obtained by Father.** Describes the highest level of formal education obtained by the student's father. (NCHEMS)
    a. **Not a High School Graduate.**
    b. **High school Graduate.**
    c. **Some College or Associate's Degree.**
    d. **Bachelor's Degree or Above.**

3. **Highest Level of Education Obtained by Mother.** Describes the highest level of formal education obtained by the student's mother. (NCHEMS)
    a. **Not a High School Graduate.**
    b. **High School Graduate.**
    c. **Some College or Associate's Degree.**
    d. **Bachelor's Degree or Above.**

4. **Marital Status.** Describes the marital status of the student at time of entry. (NCHEMS)
    a. **Single, Never Married.**
    b. **Married.**

c. **Divorced/Separated.**

d. **Widow/Widower.**

5. **Number of Dependents.** The number of dependents supported by the student at time of entry. (NCHEMS)

   a. **Zero.**

   b. **One.**

   c. **Two.**

   d. **Three.**

   e. **Four.**

   f. **Five.**

   g. **Six.**

   h. **Seven.**

   i. **Eight.**

   j. **Nine or more.**

6. **Special Populations.** The student's membership in an identified population relevant to attending a postsecondary institution. (NCHEMS)

   a. **Active Military.**

   b. **Incarcerated.**

   c. **Other.**

7. **Dependency Status.** The status of the student with respect to financial support at time of admission. (NCHEMS)

   a. **Independent.** A student who is 24 or older by December 31 of the award year; who is an orphan, ward of the court, a veteran of the Armed Forces, or has legal dependents other than a spouse; or who is a married student who will not be claimed as a dependent for income tax purposes by a parent or guardian for the first calendar year of the award year, and who, if treated as an independent student in the preceding award year, was not claimed for income tax purposes by anyone other than a spouse for the first calendar year of that award year; who is a single undergraduate student with no dependents who was not claimed as a dependent by a parent or guardian for income tax purposes for the two calendar years preceding the award year and

demonstrated total self-sufficiency during the two calendar years preceding the award year in which the initial award will be granted by demonstrating an annual total income of $4,000; or who is a student for whom a financial aid administrator makes a documented determination of independence by reason of other unusual circumstances.

b. **Dependent.** Any student who does not meet the criteria for designation as an independent student.

Educational Background

Required

1. **Last High School Attended.** The 9-digit College Board classification is recommended. Out-of-state schools will typically be assigned a single code. Institutions have the option of using their own codes. (NCHEMS)

2. **Type of High School Award.** The type of award granted to the student on completion of a high school curriculum. (NCHEMS)
   a. **Standard.**
   b. **Collegiate.**
   c. **Honors.**
   d. **Certificate of Attendance.**
   e. **GED.**
   f. **No High School Award.**

3. **Date of High School Diploma or Its Equivalent.** Month and the last two digits of the year of the receipt of the student's high school diploma or its equivalent (YYMM). (NCHEMS)

4. **High School Grade Point Average.** Grade point average earned in high school, typically on a scale based on 100.

5. **Last College Attended.** The 6-digit Federal Interagency Commission on Education (FICE) number assigned by the Department of Education is preferred. (NCHEMS)

6. **Previous College-Level Academic Experience.** The extent of past postsecondary educational experience obtained prior to enrollment at the college. (NCHEMS)
   a. **None.**
   b. **Some Postsecondary Education.** Attendance at a postsecondary educational institution not resulting in a degree or certificate.
   c. **Postsecondary Award, Certificate, or Diploma.** An award granted for the completion of an organized program of study at the postsecondary level of

instruction (typically of at least one, but less than two, full-time-equivalent academic years) resulting in a certificate or equivalent award.

d. **Associate's Degree**. An award granted on completion of an educational program that is not of a baccalaureate level and that normally requires at least two but less than four years of full-time equivalent college work.

e. **Bachelor's Degree**. An award granted on completion of an educational program that normally requires at least four, but not more than five, years of full-time equivalent college-level work. This includes all bachelor's degrees conferred in a cooperative or work-study plan or program.

f. **Master's Degree**. An award granted on completion of a program of study of at least the full-time equivalent of one, but not more than two, academic years of work beyond the bachelor's degree.

g. **Doctor's Degree**. An award granted on completion of a program of study at the graduate level that terminates in a Doctor's degree. The doctor's degree classification includes such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Ph.D. in any field whether Agronomy, Education, Opthamology, etc.

h. **First-Professional Degree**. An award granted on completion of the following: (1) completion of the academic requirements to begin practice in the profession; (2) at least two years of college work prior to entrance to the program; and (3) a total of at least six academic years of college work to complete the degree program, including prior required college work plus the length of the professional program itself. Includes chiropractic, general dentistry, general medicine, optometry, osteopathic medicine, pharmacy, podiatry, veterinary medicine, law, and theological studies.

7. **Remediation Status at Time of Entry--Reading**. The assessed level of student proficiency in reading determined by the institution for purposes of placement and remediation. Locally defined and locally supplied category with seven levels available for local assignment. (NCHEMS)

8. **Remediation Status at Time of Entry--Writing**. The assessed level of student proficiency in writing determined by the institution for purposes of placement and remediation. Locally defined and locally supplied category with seven levels available for local assignment. (NCHEMS)

9. **Remediation Status at Time of Entry--Computation**. The assessed level of student proficiency in computation determined by the institution for purposes of

placement and remediation. Locally defined and locally supplied category with seven levels available for local assignment. (NCHEMS)

10. **Limited English Speaking Proficiency.** A student is in this class if he or she does not speak and understand the English language in an instructional setting well enough to benefit from the instruction and complete the objectives of the program without special assistance. (VEDS)

Optional

1. **High School Rank.** The rank of a student in his or her high school graduating class. (NCHEMS)

2. **Size of High School Graduating Class.** Number of students in a student's high school graduating class. (NCHEMS)

3. **High School Track.** The area of concentration in which high school students take most of their coursework. (NCHEMS)
   a. **Standard.** A program of studies designed to prepare students for the common activities as citizens, family members, and workers. A standard program of studies may include instruction in both academic and vocational areas.
   b. **Collegiate.** A program of studies designed to prepare students for college-level coursework.
   c. **Honors.** A program of studies for students who have achieved a high standard of performance in a special subject area or who have generally high scholarship.

4. **Hours Transferred for Credit.** Number of credit hours in approved college-level courses which the institution accepts for transfer credit. (NCHEMS)

5. **Initial Performance on Local Proficiency Exam--Reading.** Raw score attained by the student in an initial administration of the proficiency exam in reading. (NCHEMS)

6. **Initial Performance on Local Proficiency Exam--Writing**. Raw score attained by the student in an initial administration of a proficiency exam in writing. (NCHEMS)

7. **Initial Performance on Local Proficiency Exam--Computation**. Raw score attained by the student in an initial administration of a proficiency exam in computation. (NCHEMS)

8. **Initial Performance on State-Mandated Proficiency Exam--Reading**. Raw score attained by the student in an initial administration of the state-mandated proficiency exam in reading. (NCHEMS)

9. **Initial Performance on State-Mandated Proficiency Exam--Writing**. Raw score attained by the student in an initial administration of the state-mandated proficiency exam in writing. (NCHEMS)

10. **Initial Performance on State-Mandated Proficiency Exam--Computation**. Raw score attained by the student in an initial administration of the state-mandated proficiency exam in computation. (NCHEMS)

Enrollment Status

Required

1. **First Term of Academic History.** The term and the last two digits of the year the student is first enrolled at the institution (YYT). Terms are coded: (EDC and NCHEMS)
   a. **Fall.** First term of the academic year.
   b. **Spring.** Second term of the academic year.
   c. **Summer I.** First term of the summer session.
   d. **Summer II.** Second term of the summer session.

2. **Admission Status.** The type of admission to the institution granted to the student on initial entry. (EDC)
   a. **Full.**
   b. **Provisional or Restricted.**

3. **Basis of Admission.** The basis on which the decision to admit the student was taken. (EDC)
   a. **High School Graduate.**
   b. **Individual Approval.** Student's application is approved by the institution on a case-by-case basis.
   c. **General Education Development (GED) Certificate.**
   d. **College Transfer.**
   e. **Transient.** Student is enrolled formally in another institution and is not seeking a degree.
   f. **Readmission, Previously Enrolled.** Student is readmitted to the institution after an absence of six or more years.
   g. **Early Admission--Concurrent Enrollment.** The student is admitted and receiving college credit while still enrolled in high school.
   h. **Other.**

4. **Financial Aid Status.** The status of the student with respect to financial aid upon initial term of admission. (NCHEMS)

a. **Applied**. Student made application to receive financial aid.

b. **Applied and Determined Eligible**. Student made application and was determined eligible to receive financial aid.

c. **Applied, Determined Eligible, and Awarded**. Student made application to receive financial aid, was determined eligible, and was awarded an amount.

d. **Applied, Determined Eligible, Awarded, and Collected**. Student made application to receive financial aid, was determined eligible, was awarded an amount, and collected the award.

e. **Did Not Apply**. Student did not apply for financial aid.

5. **Time of Attendance**. The time of day or week a student predominantly attended class(es). (COPA)

   a. **Regular Day Program**.

   b. **Evening.**

   c. **Weekend.**

   d. **Other**.

6. **Location of Instruction**. The location where the student predominantly attended classes. (COPA)

   a. **On-Campus**.

   b. **Off-Campus**.

7. **Initial Program at Time of Entry**. The initial program the student enrolls in at the time of entry to the institution. The CES Classification of Instructional Programs (CIP) is recommended. (NCHEMS)

8. **Program Track**. The general community college program track in which a student is enrolled. (CES)

   a. **Vocational**. A program of studies designed to prepare students for employment in one or more semiskilled, skilled, or technical occupations.

   b. **Academic**. A program of studies designed primarily to prepare students for a four-year college program.

   c. **Unclassified**. A student who has not formally specified an occupational or academic program track.

9. **Student Objective in Attending College**. The primary reason a student reports for attending college. (NCHEMS)
   a. **Get a Job.**
   b. **Improve Skills Needed in Current Job.**
   c. **Get a Better Job.**
   d. **Earn One-Year Certificate.**
   e. **Earn Two-Year Degree.**
   f. **Earn Four-Year Degree.**
   g. **Personal Enrichment.**
   h. **Other.**

10. **Intended Duration**. The amount of time that the student plans to study at the institution from the time of registration. (NCHEMS)
   a. **One Term Only.**
   b. **Two Terms.**
   c. **One Year.**
   d. **Two Years.**
   e. **Three Years.**
   f. **More than Three Years.**

11. **Term of Enrollment in First College-Level English Course**. The term and the last two digits of the year the student enrolled in his/her first college-level English course at the institution (YYT). Supplied from a designated list of such courses provided by each institution. (EDC and NCHEMS)
   a. **Fall.** First term of the academic year.
   b. **Spring.** Second term of the academic year.
   c. **Summer I.** First term of the summer session.
   d. **Summer II.** Second term of the summer session.

12. **Performance in First College-Level English Course**. Grade earned by the student in his/her first completed college-level English course at the institution defined as above. (NCHEMS)

13. **Term of Enrollment in First College-Level Math Course**. Enter the term and the last two digits of the year the student enrolled in his/her first college-level Math course at the institution (YYT). Supplied from a designated list of such courses provided by the institution. (EDC and NCHEMS)

    a. **Fall**. First term of the academic year.

    b. **Spring**. Second term of the academic year.

    c. **Summer I**. First term of the summer session.

    d. **Summer II**. Second term of the summer session.

14. **Performance in First College-Level Math Course**. Grade earned by the student in his/her first college-level Math course at the institution defined as above. (NCHEMS)

Optional

1. **Type of Financial Aid Award**. The basic type of financial aid awarded on initial entry. (NCHEMS)

    a. **Need-Based**.

    b. **Merit-Based**.

    c. **Other**.

Term Tracking

Required

1. **Term Identification.** Term to which all of the following elements apply. Enter the term and the last two digits of the year the student is first enrolled at the institution (YYT). (CDC and NCHEMS)
   a. **Fall.** First term of the academic year.
   b. **Spring.** Second term of the academic year.
   c. **Summer I.** First term of the summer session.
   d. **Summer II.** Second term of the summer session.

2. **Student Credit Hours Attempted as of the Official State Reporting Date.** The total number of credit hours a student is enrolled for in the term of record as of the designated census date for state reporting. (NCHEMS)

3. **Student Credit Hours Attempted for which Grades Were Received.** The total number of student credit hours actually completed by the student in the term of record and included in the GPA calculation. (NCHEMS)

4. **Student Credit Hours Successfully Completed.** The total number of student credit hours attempted by the student for which a passing grade was received in the term of record. (NCHEMS)

5. **Grade Point Average.** Typically on a scale of 0.000 to 4.000 with 4.000 = 'A' for credit earned in all coursework. (NCHEMS)

6. **Student Credit Hours Attempted as of the Official State Reporting Date for Non-Remedial Courses.** The total number of credit hours a student is enrolled for in non-remedial courses in the term of record as of the designated census date for state reporting. (NCHEMS)

7. **Student Credit Hours Attempted for which Grades Were Received for Non-Remedial Courses.** The total number of student credit hours actually completed in non-remedial courses by the student in the term of record and included in the GPA calculation. (NCHEMS)

8. **Student Credit Hours for Which the Grade A, B, or C Was Received for Non-Remedial Courses.** The total number of student credit hours attempted in non-remedial courses by the student for which the grade A, B, or C was received in the term of record. (NCHEMS)

9. **Grade Point Average for Non-Remedial Courses**. Typically on a scale of 0.000 to 4.000 with 4.000 = 'A' for credit earned in coursework in non-remedial courses only. (NCHEMS)

10. **Academic Standing.** The official academic standing of the student during the term of record. (NCHEMS)

    a. **Good Academic Standing.**

    b. **Probation.**

    c. **Suspension.**

11. **Remediation by Level Attempted--Reading**. The level of formal remediation of an assessed deficiency attempted by the student in reading during the term of record. The level should reflect the level of proficiency that the student would have attained if the remediation were successfully completed. If no remediation is attempted during the term, the element is left blank. (NCHEMS)

12. **Proficiency Level Attained--Reading**. The assessed level of student proficiency in reading determined by the institution for purposes of placement and remediation. Locally defined and locally supplied category. (NCHEMS)

13. **Remediation by Level Attempted--Writing**. The level of formal remediation of an assessed deficiency attempted by the student in writing during the term of record. The level should reflect the level of proficiency that the student would have attained if the remediation were successfully completed. If no remediation is attempted during the term, the element is left blank. (NCHEMS)

14. **Proficiency Level Attained--Writing**. The assessed level of student proficiency in writing determined by the institution for purposes of placement and remediation. Locally defined and locally supplied category. (NCHEMS)

15. **Remediation by Level Attempted--Computation**. The level of formal remediation of an assessed deficiency attempted by the student in computation

during the term of record. The level should reflect the level of proficiency that the student would have attained if the remediation were successfully completed. If no remediation is attempted during the term, the element is left blank. (NCHEMS)

16. **Proficiency Level Attained--Computation.** The assessed level of student proficiency in computation determined by the institution for purposes of placement and remediation. Locally defined and locally supplied category. (NCHEMS)

17. **Program Enrolled In.** The current program in which the student is enrolled. The CES Classification of Instructional Programs (CIP) is recommended. For programs not included in CIP, a local code is used. (NCHEMS)

18. **Type of Degree/Certificate Awarded.** The type of award attained, if any, during the term of record. (IPEDS and NCHEMS)

    a. **None.**

    b. **Postsecondary Awards or Certificates** (less than one year). An award granted for the completion of a program that is completed in less than one academic year (2 semesters or 3 quarters) or less than 900 contact hours by a student enrolled full-time.

    c. **Postsecondary Awards or Certificates** (at least one but less than two academic years work). An award granted for the completion of an organized program of study at the postsecondary level of instruction of at least one but less than two full-time-equivalent academic years; or designed for completion in at least 30 but less than 60 credit hours, or in at least 900 but less than 1,800 contact hours.

    d. **Academic Associate's Degree.** An award granted upon completion of an educational program that is not of a baccalaureate level and that normally requires at least two but less than four years of full-time-equivalent college work and is typically assigned an AA or AS degree.

    e. **Applied Associate's Degree.** An award granted on completion of an applied technology program that is not of a baccalaureate level, and is typically assigned as an AAS degree.

19. **Term GED Activity.** Indicates whether a student was enrolled in and/or completed a GED program at the institution during the term of record. (NCHEMS)

a. **Enrolled in GED Program.**

b. **Enrolled in and Completed ESL Program.**

c. **Not Enrolled in GED Program.**

20. **Term ESL Activity.** Indicates whether a student was enrolled in and/or completed an ESL program at the institution during the term of record. (NCHEMS)

    a. **Enrolled in ESL Program.**

    b. **Enrolled in and Completed ESL Program.**

    c. **Not Enrolled in ESL Program.**

21. **Term Non-Credit Activity.** Indicates whether a student was enrolled in and/or completed a non-credit program of study at the institution during the term of record. (NCHEMS)

    a. **Enrolled in Non-Credit Program.**

    b. **Enrolled in and Completed Non-Credit Program.**

    c. **Not Enrolled in Non-Credit Program.**

Optional

1. **Honor Points for All Courses.** The numerator for the GPA calculation. Calculated as the sum of products of the number of course credit hours and grade points earned in that course. (NCHEMS)

2. **Honor Points for Non-Remedial Courses.** The numerator for the GPA calculation for non-remedial courses. Calculated as the sum of products of the number of course credit hours and grade points (0-4) earned in that course. (NCHEMS)

3. **Performance on Local Proficiency Exam--Reading.** Raw score attained by the student in a re-test of the proficiency exam during the term of record. (NCHEMS)

4. **Performance on Local Proficiency Exam--Writing**. Raw score attained by the student in a re-test of the proficiency exam during the term of record. (NCHEMS)

5. **Performance on Local Proficiency Exam--Computation**. Raw score attained by the student in a re-test of the proficiency exam during the term of record. (NCHEMS)

6. **Hours Awarded by Assessment of Learning**. The number of hours earned during the term of record through CLEP, the evaluation of experiential learning, or a similar process. (NCHEMS)

Follow-Up Elements

All Optional

1. **Transcripts Requested.** One measure that a student is considering transferring to another institution is when the student requests to have transcripts sent to another institution or an employer. To record information on which institution(s), the use of the 6-digit Federal Interagency Commission on Education (FICE) number assigned to the institution by the Department of Education is preferred. (NCHEMS)

2. **Transferred to Another Institution.** The 6-digit Federal Interagency Commission on Education (FICE) number assigned to the institution to which a student has officially transferred by the Department of Education to indicate transfer institution. (NCHEMS)

3. **Credit Hours Accepted by Transfer Institution.** The number of credit hours earned at this institution that were successfully transferred to another institution. (NCHEMS)

4. **First Term Enrolled in Transfer Institution.** The term and the last two digits of the year the student is first enrolled at the transfer institution (YYT). (CDC and NCHEMS)
   a. **Fall.** First term of the academic year.
   b. **Spring.** Second term of the academic year.
   c. **Summer I.** First term of the summer session.
   d. **Summer II.** Second term of the summer session.

5. **Program Enrolled in at Transfer Institution.** The initial program the student enrolls in at the time of entry to the transfer institution. The CES Classification of Instructional Programs (CIP) is recommended. (NCHEMS)

6. **First Degree Attained in Transfer Institution.** The first degree attained by a former student at the transfer institution. (IPEDS)
   a. **None.**
   b. **Postsecondary Awards, Certificates, or Diplomas** (less than one year). An award granted for the completion of a program that is completed in less than

one academic year (2 semesters or 3 quarters) or less than 900 contact hours by a student enrolled full-time.

c. **Postsecondary Awards, Certificates, or Diplomas** (at least one but less than two academic years work). An award granted for the completion of an organized program of study at the postsecondary level of instruction of at least one, but less than two, full-time-equivalent academic years; or designed for completion in at least 30 but less than 60 credit hours, or in at least 900 but less than 1,800 contact hours.

d. **Postsecondary Awards, Certificates, or Diplomas** (at least two but less than four academic years work). An award granted for the completion of an organized program of study at the postsecondary level of instruction of at least two, but less than four, full-time-equivalent academic years; or designed for completion in at least 60 but less than 120 credit hours, or in at least 1,800 but less than 3,600 contact hours.

e. **Associate's Degree**. An award granted on completion of an educational program that is not of a baccalaureate level and that normally requires at least two, but less than four, years of full-time-equivalent college work.

f. **Bachelor's Degree**. An award granted on completion of an educational program that normally requires at least four, but not more than five, years of full-time-equivalent college-level work. This includes all bachelor's degrees conferred in a cooperative or work-study plan or program.

7. **Program of Degree Awarded**. The program in which the student receives an award/degree at the transfer institution. The CES Classification of Instructional Programs (CIP) is recommended. (NCHEMS)

8. **Employment Status at Time of Follow-Up**. The employment status of the student after completion or withdrawal from a program. (NCHEMS)

   a. **Employed Full-Time**. Employed for 35 hours per week or more.

   b. **Employed Part-Time**. Employed for less than 35 hours per week.

   c. **Employed as Homemaker**.

   d. **Not Employed, Seeking Work**.

   e. **Not Employed, Not Seeking Work**.

9. **Employment in Field for which Trained**. Student report of the degree to which instruction received is related to current job duties and performance. (NCHEMS)

a. **Directly Related.**

b. **Somewhat Related.**

c. **Not at All Related.**

10. **Average Hourly Salary/Wage Rate in Current Job.** The current hourly rate of pay reported by the student in his or her current job. (NCHEMS)

11. **Employer Rating - Technical Knowledge.** A rating by the current employer of a former student's on-the-job performance with respect to technical knowledge. Computed on a 5 point scale. (NCHEMS)

12. **Employer Rating - Work Attitude.** A rating by the current employer of a former student's on-the-job performance with respect to work attitude. Computed on a 5 point scale. (NCHEMS)

13. **Employer Rating - Work Quality.** A rating by the current employer of a former student's on-the-job performance with respect to work quality. Computed on a 5 point scale. (NCHEMS)

Derived Data Elements

While much can be learned from looking at simple demographic or performance variables like gender, or GPA, it is often useful to calculate indicators of student behavior. These indicators are derived or inferred from other elements in the student records system by a specified computational or logical algorithm. Examples are:

1. **Number of Terms Enrolled**. The sum of the number of terms that a student in a particular cohort has attempted to complete courses for one or more hours of credit. Summer terms may or may not be included at user option.

2. **Dropped Out After One Term**. Student has enrolled for one or more credit hours of instruction during the first term of enrollment but registered for zero hours for each of the other terms being analyzed.

3. **Total Credit Hours Attempted**. The sum of the credit hours attempted to date.

4. **Total Credit Hours Completed**. The sum of the credit hours successfully completed to date.

5. **Credit Hour Completion Rate**. Total semester credit hours completed divided by total semester credit hours attempted.

6. **Average Load**. Total semester credit hours attempted divided by the number of terms with semester hours attempted greater than zero.

7. **Dropped Out**. Student has not enrolled for two consecutive regular terms or one regular and two summer terms (consecutive).

8. **Degree Completed**. Student has completed a degree or certificate program.

9. **Still Attending**. Student is currently enrolled for one or more credit hours.

10. **Cumulative GPA**. A weighted average of term GPAs for all terms in which a student is enrolled for one or more credit hours.

11. **Age.** The difference between the year of the term being studied and the student's year of birth.

Chapter 4

Constructing and Maintaining the Tracking Database

This chapter describes basic procedures for constructing and maintaining a student tracking database, as illustrated by LONESTAR. Because all required data elements contained in longitudinal student enrollment records are drawn from existing student records, a primary purpose is to describe procedures for periodically extracting the elements from these existing record files. At the same time, the common definitional and coding structure used by the tracking system may require that some data elements be recoded. Both issues are important, and must be fully addressed.

A primary difficulty in building a student-by-student longitudinal tracking file is the manner in which student record data is generally stored and accessed in institutional computerized registration files. Most student record systems maintain two quite different types of files that contain enrollment information. The first files, often termed "transcript" or "student history," consist of historical information about student demographics, course-taking, and performance. Because they are used to generate transcripts and other student records, they must contain historical information, but they must also have accurate information on a given student's status at a particular point in time. The information in such files is thus generally inappropriate for tracking because the codes and values for such elements as probation, GPA, and current major are constantly updated, and are written over the old values. As a result, it may be impossible to track such things as changes in student major or to note correlations between probationary status or incomplete coursework and subsequent persistence.

The alternative is to use files of the second type--so-called "term enrollment" files--but these present their own difficulties. Such files are maintained for each term, and contain records for all the students enrolled in that term--usually frozen as of the tenth day of the term (or another commonly agreed upon census date). They are generally used for HEGIS and for other summary reporting purposes. Usually they contain much of the same information as do history files, but the data are recorded as of that term and are never updated. This means that it is possible to

capture important student status elements at a particular point in time. But it also means that updates representing error corrections--for example, corrections of incorrect or missing Social Security numbers--are not present prior to the point of correction. The primary difficulty with term enrollment files is that they are free-standing and are difficult to link together without special programming. Often, in fact, they are archived off-line and must be physically put up on the system. This means that it is sometimes a complex problem to successively read such files, select the records for a given cohort of students, extract the relatively few data elements from each record that are required for an analysis, and conduct the analysis itself.

Institutions that maintain a substantial number of past term files on-line, and that also have access to a statistical package that allows simultaneous use of several source files, can theoretically accomplish these tasks in a single step. But even in this case, it is often a good idea to maintain distinct longitudinal files for analytical purposes for ease of access and data manipulation and for maintaining important derived data elements. For most institutions the best answer will be to construct a free-standing tracking file for each cohort. This file will contain a longitudinal record consisting of extracted data elements from past term files for each member of the cohort. The first computing problem contained in creating such files involves identifying all members of the cohort to be tracked and locating their first term record in the student database. Maintenance and updating of the file is then accomplished each term by adding current term information to the end of each record. Once procedures are established, this is generally a straightforward process for a computing center. Furthermore, because the resulting file is of fixed length for all records, it is easily analyzed by SPSS or by other statistical packages that require (or that work better with) such a format.

Constructing the required longitudinal records is often considerably simplified by using multiple "source files" to receive and manipulate data extracted from existing student records. Each source file used in the tracking system is intended to be treated as a separate, free- standing file. Each source file contains the data elements specific to a given portion of the student longitudinal enrollment record. Furthermore, each source file is generally keyed to a single location in the institution's master student record system. Using source files of this kind greatly aids construction of longitudinal records by distinguishing among three separate operations:

- extracting the required data from the existing student record system;

- recoding the data if necessary to make the data structure consistent with that used by the tracking system; and

- creating and periodically updating the student longitudinal enrollment record.

In LONESTAR, ten distinct source files of this kind are used. Their content and format are specified in Appendix A. For each data element, the following information is provided: a descriptive name; a short name (for use in SPSS programming, file manipulation, and other data processing tasks); a data element type; a start column within the file; and a field size. Note that the first data element of each record in every source file is always the student identification number (usually the social security number). The student identification number serves as a basis for matching student records from the various source files and is used to create the student longitudinal enrollment record. In Appendix A, source files are presented roughly in the order in which they are used and in the order in which the elements they contain are loaded into the longitudinal student enrollment record. Institutions are responsible for creating these source files in the required format using locally devised procedures. All other manipulations of data, including constructing and maintaining the longitudinal tracking database, are accomplished using defined routines in SPSS-X written by NCHEMS and provided as part of the system.

The basic flow of longitudinal file construction used in LONESTAR is presented conceptually in figure 4.1, and is typical of the logic best used in any system. In Step One, a set of "Tracking System Source Files" is created by extracting and recoding the required data from existing student record files of various kinds maintained by the institution. These source files contain selected data for all students present in the institution's record files from which they are drawn. As such, the contents of the source file represents a simple "download" of identified variables within each institutional record file. Institutions are responsible for creating these source files from their own records using whatever procedure is locally deemed most effective. In Step Two, these records specific to a particular cohort are assembled from various source files to create a single "Cohort Tracking File." This step can be accomplished by system-supplied SPSS software and involves (a) extracting records from successive source files that meet the definition for inclusion in a particular cohort and (b) merging information drawn from these source files to yield a single longitudinal record for each student in the cohort. The merged longitudinal student enrollment records contained in each cohort file so constructed constitute the basis for all system reporting and analysis. Step Three, also able to be accomplished by system-supplied SPSS software, involves using each Cohort Tracking File to generate required reports and to support *ad hoc* analyses.

It is important to emphasize that in LONESTAR each institution is individually responsible for creating the Tracking System Source Files that serve as foundations for the system. As noted in figure 4.2, this responsibility involves two distinct operations. First, required data elements must be located and extracted from existing student records and these elements must be loaded into the appropriate source files. In most cases, this operation will be a simple extraction from existing records. In a few cases tracking system data elements involve multiple

Figure 4.1
TRACKING SYSTEM OVERVIEW

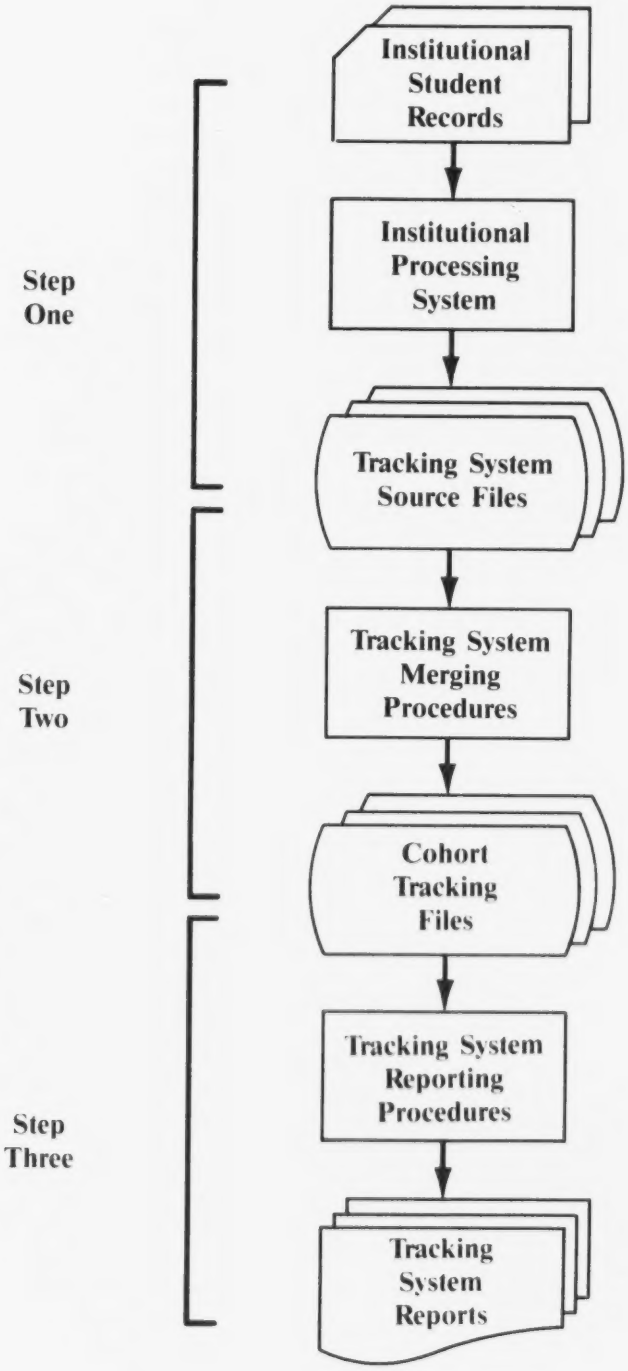
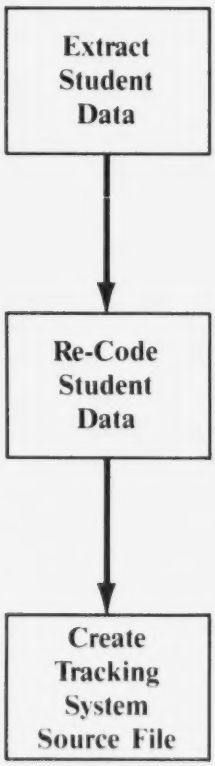


Figure 4.2
INSTITUTIONAL PROCESSING SYSTEM



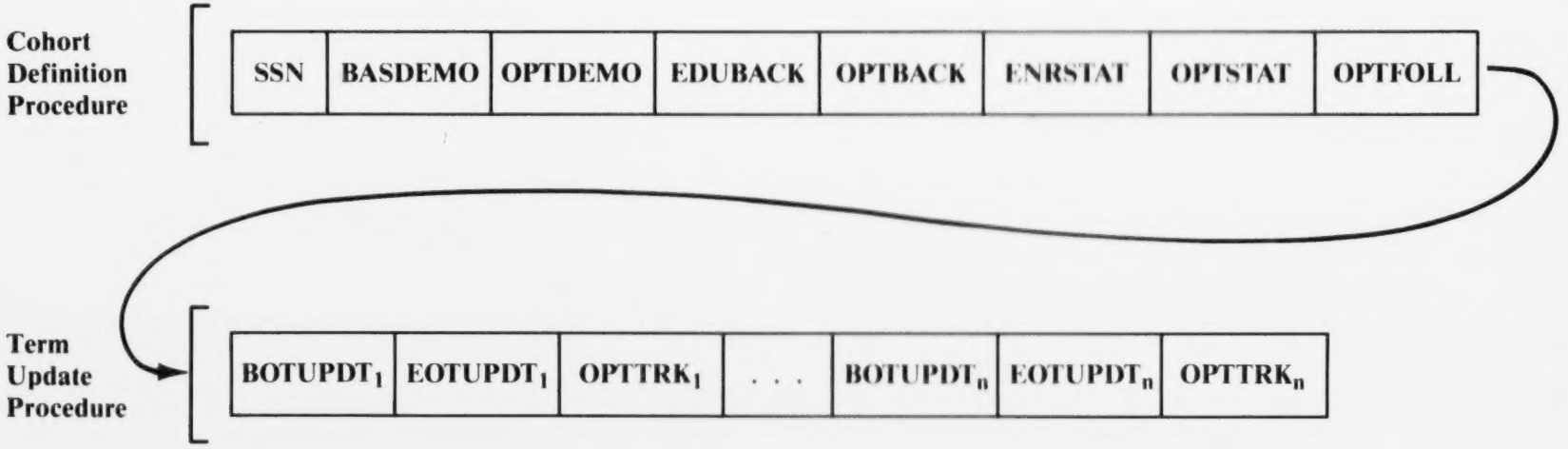
attributes, and additional programming may be required to extract the data in the required form. While cases involving substantial additional programming will be rare, most data elements will nevertheless need to be recoded to convert the codes used in institutional record keeping into the numeric codes used by the tracking system. Like data extraction, recoding may be executed in any manner the institution determines. Once Step One is accomplished, however, all recodes can be accomplished using straightforward variable recode procedures within a statistical package like SPSS.

Once a given cohort file has been created, it must be updated and maintained for each term that it is kept active. Each step of the update procedure is analogous to the steps involved in initially creating the cohort file. New source files are created each term based on extracts of existing student records. These source files are then successively read and matched to the appropriate cohort files. Data contained in the various source files are used each term to update all longitudinal student enrollment records. The basic layout of the longitudinal student enrollment record created by these successive steps is presented in figure 4.3, and shows how the data elements contained in each zone of the record are associated with particular tracking system source files.

In sum, the success of any tracking system depends on each institution's ability to select and extract the appropriate data elements from existing student records, and to convert these elements into the required formats. In LONESTAR, five basic file manipulation operations must be performed:

1. **Extraction and Recoding of Data**: As a first step in constructing the tracking database, each institution must extract the required student record data from existing files and must ensure that the coding structure for each element is consistent with system specifications. The extraction process involves locating each data element in existing student registration database(s) and copying its contents to one of the source files described above. The optional SPSS tracking system software expects single, fixed-length, ASCII (or EBCDIC on some systems) records for each student. These "flat" files are then read by an SPSS program. This program produces SPSS system files that are used to manipulate files and to generate reports. For each data element, a recoding process may be needed to translate the coding schemes used by the institution into that required by the tracking system. For example, an institution may use the codes "M" and "F" for male and female. Assigned tracking system codes for this data element, however, are "1" and "2" for male and female. Each institution must determine how to make this translation. It may involve a simple recode task within the record-keeping system itself, or it may require special programming to produce the desired result. As an option, SPSS can perform the recode function and can create an SPSS system file for later use. This recode task should be accomplished within each source file before any cohort tracking files are constructed.
2. **Establishment of a Cohort**: To track a set of students, the data for the set of students must be extracted from the institutional database. The tracking

Figure 4.3
TRACKING FILE RECORD LAYOUT



defines a cohort based on the first term of active academic history at the institution. Active academic history means that the student was enrolled for at least one credit hour or has officially enrolled in a GED, ESL, or designated non-credit program. The only exception to this rule in LONESTAR is for students who have a past instance of enrollment at the institution more than six years old. In this case, the student has no past cohort in which to reside and is treated as a "new" student. Once established, the cohort file is updated each term as the students progress.

Each cohort is defined and maintained as a separate tracking file. Once the correct data are extracted, recoded, and copied to the appropriate source files, the tracking system will update each cohort's longitudinal tracking file. To create the tracking data file for a given cohort, the appropriate source data files must be generated according to assigned file layouts. Source data files are then successively read by LONESTAR's SPSS software or by a local alternative, the data associated with a given cohort are extracted, and the results are combined to form the longitudinal enrollment record. System supplied SPSS routines also generate a frequency count for each value of each categorical variable, as well as general statistics for continuous variables. Frequency reports of this kind are particularly useful as the results can be checked against known parameters of the cohort to guard against errors in creating the cohort file.

3. **"Beginning-of-Term" Update**: At the beginning of each term, several data elements must be extracted from regular term registration records in the student database. In LONESTAR, this procedure is usually performed just after the official reporting or census date for the institution. At this time, a Beginning-of-Term Update source file record for each student enrolled is created that shows such elements as Student Credit Hours Attempted, Student Credit Hours Attempted in Non-Remedial Courses, Academic Standing, Remediation Attempted (for Reading, Writing, and Computation), and Program Enrolled In. These data must then be incorporated into the proper student tracking records in each established cohort tracking file.

   To perform the update using LONESTAR's SPSS software, the Beginning-of-Term Update source file and the desired cohort tracking file are read by an SPSS program. This program uses the MATCH feature of SPSS to match the "transaction" (term) file against the "master" (tracking) file. Updated records are written out for later processing, and as before, the program generates a listing which can be checked for errors before proceeding.

4. **"End-of-Term" Update**: To complete the term tracking data, a parallel record must be created for each student at the end of each term that shows the results of the term's efforts. In LONESTAR, these records are contained in an End-of-Term Update source file similar to that used at the beginning of the term. This record contains values for Student Credit Hours Attempted for Which Grades Were Received, Student Credit Hours Successfully Attempted, Grade

Point Average, and so on. The tracking system software updates the student tracking record using this data. This update is achieved in the same way as the beginning-of-term update described above. A transaction file is used to update the master file and a listing is produced.

5. **Archiving**: The student tracking system is designed to provide historical information about identified groups of students. For example, information on student credit hours attempted must be preserved as of the census date and not overwritten with subsequent changes in credit hour load. This may make it desirable to create a backup copy of student term records frozen as of the census date for later use in updating tracking system data files. If a file freeze procedure of this kind is accomplished regularly, it is possible to create retrospective as well as current tracking files. Because constructing the tracking system involves considerable time and expense, it is worthwhile to ensure that no loss of data occurs. It is highly recommended that procedures be developed to provide for the systematic backup of each data element required by the system and the storage of these data on an archival storage medium (magnetic tape, for example). This will allow reconstruction of a cohort file in the event of software error or computer failure.

This sequence of steps is typical of that required for creating and maintaining any longitudinal student tracking database. Its logic is determined by requirements for

- physically identifying and extracting required data elements;
- identifying and extracting records appropriate to a particular cohort;
- periodically updating the resulting longitudinal file(s) from term to term throughout the tracking period; and
- maintaining each file in a manner consistent with analytical requirements.

Once these steps are established, they become routine computing procedures accomplished as part of a regular operations schedule. The result is a considerable gain in efficiency over the kinds of *ad hoc* longitudinal studies typically undertaken in colleges and universities.

Chapter 5

Defining and Generating System Reports

Once a longitudinal student tracking database is established, it can provide the foundation for many kinds of reports. These reports, generally in a standard format, are produced by reading the database at particular points in time, calculating summary statistics reflecting the status of the cohort at that point in time, and presenting these statistics in a manner designed to inform policy or document performance. While some institutions prepare special programming to generate required reports, enhanced report-writing capabilities of commercial statistical packages such as SPSS-X and SAS are rapidly rendering this unnecessary. In LONESTAR, for example, all regular reports are produced using report-writing routines contained in the TABLES option of SPSS-X.

Regardless of complexity, tracking system reports tend to fall into a number of distinct categories. Some, generally termed cohort history reports, document the term-to-term persistence behavior of an identified cohort. For example, LONESTAR Progress reports show the number of students still enrolled as of a given term, the number of students who have completed a degree, and the number who enrolled for only one term. Others, generally termed progress or performance reports, present summary statistics reflecting the condition of a cohort as of a particular point in time. LONESTAR Performance reports show how well students are doing in terms of number of terms enrolled, credit hour loads, course completion rates, and grade point average. Still other special purpose reports are designed to address particular institutional needs--for example, to document the sequence in which identified curricular requirements are fulfilled, or the status of members of the cohort with respect to remediation and basic skills proficiencies. LONESTAR Remediation reports, for instance, show the status and progress of students assessed as deficient in reading, writing, and computation. In each case, reports are generally designed to provide maximum information by providing breakdowns across a range of pre-determined student characteristics.

The reports generated by the LONESTAR tracking system are intended to provide timely and accessible information to institutional decisionmakers and to the

State Higher Education Coordinating Board. Standard reports are generated at several key points in the academic year. Institutional reports are intended to provide policy and planning guidance at the institutional level. State reports are intended to communicate summary statistics on cohort progress and remediation success to the State Coordinating Board. The system is also designed so that a researcher or administrator can probe the database in an *ad hoc* fashion at virtually any time.

Standard reports are intended to provide a set of benchmarks for use in assessing longitudinal enrollment behavior and the success of remediation. Most provide a range of comparisons among particular student populations. Some reports are intended to stand alone and provide information about a single time period. Others present aggregations of several time periods. Because of the number and complexity of data elements maintained, most reports include only credit students. A more limited set of reports provides basic persistence information on non-credit students. All LONESTAR reports can be subdivided by program, by degree area, or by a range of demographic elements. In addition, all can be run for any defined student subpopulation. Use of the SPSS "Select If " procedure in generating reports can provide virtually unlimited breakdowns of the student population.

All reports produced by LONESTAR present information associated with a single tracking cohort. If results for a number of cohorts are desired, it is possible to merge results into a single table--provided, of course, that comparable "snapshots" (for example, two years after initial enrollment) are used for each cohort. Reports are also calculated as of a given point in time in the longitudinal enrollment history of the cohort. While reports can be generated to reflect the cohort's status as of any term up to and including the final term of a six-year tracking period, the most useful reporting times are one, two, and three years after initial enrollment. These reporting periods reflect the needs of two-year institutions, but the system can be easily modified to accommodate the longer tracking periods needed for four-year institutions.

Each report produced by LONESTAR is described in the balance of this chapter. Because each report is in essence an extended cross-tabulation of various items in the tracking file, LONESTAR report formats contain a large number of calculated variables. Reports are therefore best described by providing the calculations used to produce each of their columns and rows. On all reports, unless otherwise noted, each cell contains the subpopulation that is defined by the intersection of its respective row and column. For example, on the Institution-Level Progress Report, the cell at the intersection of "Total Students" and "55 and Over" contains the number of students who are part of the cohort, regardless of current enrollment status, and are fifty-five or more years of age.

Reports produced by the LONESTAR system are as follows:

- Institution-Level Progress Reports (2)

- Institution-Level Performance Report (1)

- Institution-Level Remediation Status Reports (3)
- State-Level Progress Report (1)
- State-Level Remediation Status Reports (2)

In the subsections below, each report is described in terms of its layout and required calculations. Additional calculational documentation is provided, if appropriate, in the form of notes keyed by number to a designated location on the report format itself.

Institution-Level Progress Report

The purpose of the Institution-Level Progress Reports is to document the extent to which particular student subpopulations are persisting from term to term at the institution. The format of the reports involves a number of persistence status indicators as column headers, and a range of subpopulation descriptors as row variables. The reports are produced in two forms: one shows the number of students and the other the percentages of students in each category. Column and row variables for these reports are defined below. This report may be run for all students, for credit students only, and for non-credit students only.

Column variables for all institution-level progress reports are as follows:

TOTAL STUDENTS: Total number of students in the cohort who are members of the demographic group described by the row label. For the percentage report, this number is repeated to serve as an indicator of cell size.

ENROLLED: Number of students in the cohort who are officially enrolled in the current term (the term for which the report is run). This term number is supplied as a parameter when the report is produced.

NOT ENROLLED: Number of students who are *not* officially enrolled in the current term.

DROPPED OUT: Number of students who have not officially enrolled for two consecutive prior regular terms, or for one regular and two summer terms (consecutive), and have not graduated. Note that the classification of a student as a dropout is provisional and may change based on subsequent student enrollment.

SUSPENDED/DISMISSED: Number of students who are on suspension or dismissed from the institution for whatever reason as of the current term.

COMPLETERS: Number of students who have earned some type of degree or certificate in any prior term, up to and including the current term. Note that the same student may be present in both this category and in the currently enrolled category, if the student has reenrolled after program completion.

FIRST TERM ONLY: Number of students who officially enrolled in the first term of the cohort, but who have not registered in any subsequent term up to and including the current term, and who have not graduated. Note that if the

report is generated for the first term of the cohort, this column should equal the TOTAL STUDENTS column.

REENROLLED COMPLETERS: Number of students who have received a degree or certificate in any term up to and including the reported term, and who have continued to officially enroll in any term after receipt of a degree up to and including the term indicated in the report title.

Row Variables for Institution-Level Progress Reports are of several kinds. An initial set of row variables uses required demographic elements defined as follows:

GENDER: Male and female categories as indicated by the Gender data element.

AGE: Age categories as indicated. Student age is calculated from the Date of Birth data element as of the beginning of the cohort tracking period.

ETHNICITY: Ethnic categories as indicated by the Racial/Ethnic Identification data element.

CITIZENSHIP: Categories as defined by the Citizenship data element.

RESIDENCE AT TIME OF ENTRY: Categories as defined by the Residence data element.

ANY PHYSICAL DISABILITY: Number of students who have any one of the physical disabilities as defined by Physical Disability data element. Calculation requires merging these categories into a single code.

ECONOMICALLY DISADVANTAGED: Categories as defined by the Economically Disadvantaged data element.

ACADEMICALLY DISADVANTAGED: Categories as defined by the Academically Disadvantaged data element.

EMPLOYMENT: Categories as defined by the Employment data element.

If the institution maintains optional demographic elements, reports that include these elements can be produced. Row variables associated with these elements are defined as follows:

ZIP CODES WITH N GREATER THAN OR EQUAL TO 10: Number of students from each zip code area reported by ten or more students in the

cohort. From all zip codes reported by fewer than ten students, the total number of students across all codes is reported.

HIGHEST EDUCATION LEVEL OF FATHER: Categories as defined by Highest Level of Education Obtained by Father data element.

HIGHEST EDUCATION LEVEL OF MOTHER: Categories as defined by Highest Level of Education Obtained by Mother data element.

MARITAL STATUS: Categories as defined by Marital Status data element.

NUMBER OF DEPENDENTS: Categories as defined by Number of Dependents data element.

SPECIAL POPULATIONS: Categories as defined by the Special Populations data element.

DEPENDENCY STATUS: Categories as defined by the Dependency Status data element.

PHYSICAL DISABILITIES: Categories as defined by the Physical Disability data element.

Additional reports use educational background elements as row variables. These reports will typically be run for credit students only. These are defined as follows:

LAST HIGH SCHOOL ATTENDED: Categories as locally defined for in-district and out-of-district high schools. High schools that ten or more students in the cohort report as their last high school attended are separately listed.

TYPE OF HIGH SCHOOL AWARD: Categories as defined by Type of High School Award data element.

DATE OF HIGH SCHOOL DIPLOMA OR EQUIVALENT (TIME FROM RECEIPT TO DATE OF TERM STUDIED): Time categories as indicated. These categories are calculated from the date of high school diploma or equivalent to the date of term studied. For example, if the date of diploma is 6/86 and the term is 9/87, "> 1 year < 2 years" is the assigned category.

HIGH SCHOOL GRADE POINT AVERAGE: Grade point averages as indicated, calculated from the High School Grade Point Average data element.

LAST COLLEGE ATTENDED: List of FICE codes for colleges and number of students who have indicated each institution as the last college attended, as incorporated in the Last College Attended data element.

PREVIOUS ACADEMIC EXPERIENCE: Categories as defined by Previous Academic Experience data element.

Optional Educational Background Elements, if employed, are used to define row variables as follows:

HIGH SCHOOL RANK: Percentage ranges as indicated.

SIZE OF GRADUATING CLASS: Sizes as indicated.

HIGH SCHOOL TRACK: Categories as indicated by the High School Track data element.

HOURS TRANSFERRED FOR CREDIT: Ranges as indicated.

PERFORMANCE ON LOCAL PROFICIENCY EXAM--READING: Categories as locally defined.

PERFORMANCE ON LOCAL PROFICIENCY EXAM--WRITING: Categories as locally defined.

PERFORMANCE ON LOCAL PROFICIENCY EXAM--COMPUTATION: Categories as locally defined.

A final set of progress reports uses enrollment status elements as row variables. These are defined as follows:

ADMISSION STATUS: Categories as defined by Admission Status data element.

BASIS OF ADMISSION: Categories as defined by Basis of Admission data element.

FINANCIAL AID STATUS: Categories as defined by Financial Aid Status data element.

TIME OF ATTENDANCE: Categories as defined by Time of Attendance data element.

LOCATION OF INSTRUCTION: Categories as defined by Location of Instruction data element.

PROGRAM TRACK: Categories as defined by Program Track data element.

STUDENT OBJECTIVE IN ATTENDING COLLEGE: Categories as defined by Student Objective in Attending College data element.

INTENDED DURATION: Categories as defined by Intended Duration data element.

TOTAL HOURS ATTENDED IN FIRST TERM: An indicator of full-time or part-time status calculated on the basis of the total number of credit hours enrolled for in the student's first term.

INITIAL PROGRAM AT TIME OF ENTRY: Number of students who have enrolled in each program, as indicated by the Program Enrolled In data element for the student's first term of enrollment.

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Basic Demographic Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Total:								
Gender:								
Male								
Female								
Age:								
Under 18								
18-21								
22-24								
25-34								
35-44								
45-54								
55 and Over								
Ethnicity:								
American Indian or Alaskan Native								
Asian or Pacific Islander								
Black, Non-Hispanic								
Hispanic								
Nonresident Alien								
White, Non-Hispanic								
Citizenship:								
United States Citizen								
Foreign National								
Nonresident Alien								
Resident Alien								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Basic Demographic Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Residence at Time of Entry:								
In-District								
In-State								
Out-of-State								
Foreign								
Any Physical Disability:								
Economically Disadvantaged:								
Academically Disadvantaged:								
Employment:								
Employed Full-time								
Employed Part-time								
Employed as Homemaker								
Not Employed, Seeking								
Not Employed, Not Seeking								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

By Optional Demographic Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Total:								
Zip Codes with N > = 10:								
NNNNN								
NNNNN								
NNNNN . . .								
All Other Zip Codes								
Highest Education Level of Father:								
Not a High School Graduate								
High School Graduate								
Some College or Associate's Degree								
Bachelor's Degree or Above								
Highest Education Level of Mother:								
Not a High School Graduate								
High School Graduate								
Some College or Associate's Degree								
Bachelor's Degree or Above								
Marital Status:								
Single, Never Married								
Married								
Divorced/Separated								
Widow/Widower								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

By Optional Demographic Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Number of Dependents:								
0								
1-4								
5 or More								
Special Populations:								
Active Military								
Incarcerated								
Other								
Dependency Status:								
Independent								
Dependent								
Physical Disabilities:								
Deaf								
Deaf-Blind								
Hard of Hearing								
Orthopedically Impaired								
Other Health Impaired								
Speech Impaired								
Visually Handicapped								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Educational Background Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Last High School Attended:								
All In-District								
All Out-of-District								
High School with N > = 10:								
NNNNNN								
NNNNNN								
Type of High School Award:								
Standard								
Collegiate								
Honors								
Certificate of Attendance								
GED								
No High School Award								
Date of High School Diploma or Equivalent (Time from Receipt to Date of Term Studied):								
1 Year or Less								
> 1 Year < = 2 Years								
> 2 Years < = 3 Years								
> 3 Years < = 5 Years								
> 5 Years < = 10 Years								
Over 10 Years								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Educational Background Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
High School Grade Point Average:								
Less than 70								
70 to 79								
80 to 89								
90 to 100								
Over 100								
Last College Attended:								
FICE Code 1								
FICE Code N								
Previous Academic Experience:								
None								
Some Postsecondary Education								
Postsecondary Award, Certificate, or Diploma								
Associate's Degree								
Bachelor's Degree								
Master's Degree								
Doctor's Degree								
First-Professional Degree								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Optional Educational Background Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
High School Rank:								
91-100%								
76%-90%								
51%-75%								
26%-50% 25% or Below								
Size of High School Graduating Class:								
1 to 50								
51 to 300								
301 to 1000								
1001 to 2000								
2001 or More								
High School Track:								
Standard								
Collegiate								
Honors								
Hours Transferred for Credit:								
0								
1-12								
13-24								
25-36								
More than 36								
Performance on Local Proficiency Exam-Reading:								
Local Category 1								
Local Category N								
Performance on Local Proficiency Exam-Writing:								
Local Category 1								
Local Category N								
Performance on Local Proficiency Exam-Computation:								
Local Category 1								
Local Category N								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Enrollment Status Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Admission Status:								
Full								
Provisional								
Basis of Admission:								
High School Graduate								
Individual Approval								
GED Certificate								
College Transfer								
Transient Readmission, Previously Enrolled								
Early Admission-Con. Cred.								
Other								
Financial Aid Status:								
Applied								
Applied, Eligible								
Applied, Eligible, and Awarded								
Applied, Eligible, Awarded, and Collected								
Did Not Apply								
Time of Attendance:								
Regular Day Program								
Evening								
Weekend								
Other								
Location of Instruction:								
On-Campus								
Off-Campus								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Enrollment Status Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Program Track:								
Vocational								
Academic								
Unclassified								
Student Objective in Attending College:								
Get a Job								
Improve Skills Needed for Current Job								
Get a Better Job								
Earn One-Year Certificate								
Earn Two-Year Degree								
Earn Four-Year Degree								
Personal Enrichment								
Other								
Intended Duration:								
One Term Only								
Two Terms								
One Year								
Two Years								
Three Years								
More Than Three Years								
Total Hours Attempted in First Term:								
1 - 6 Hours								
7 - 12 Hours								
More Than 12 Hours								

Institution-Level Progress Report: Counts

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Enrollment Status Elements

	Total Students	Enrolled	Not Enrolled	Dropped Out	Suspended/ Dismissed	Completers	First Term Only	Reenrolled Completers
Initial Program at Time of Entry:								
Program 1								
Program N								

Institution-Level Performance Report

The purpose of the Institution-Level Performance Report is to present summary statistics that describe the enrollment behavior of particular student subpopulations as they progress through the curriculum. The report is intended to cover credit-seeking students only, and is only appropriately used with this population. The layout of the report is similar to the Institution-Level Progress Report. Performance indicators are arrayed as column headers and subpopulation breakdowns are incorporated as row variables. Both types of variables are described below.

Column Variables:

TOTAL STUDENTS: Total number of students in the cohort who are members of the demographic group described by the row labels. These totals are identical to those used in the Progress Report.

NUMBER OF TERMS ATTENDED: The number of terms, on average, that students in the groups indicated by the row labels were in attendance at the institution. "Attended" is defined as having enrolled for at least one credit hour in a given term. The average presented is thus a group average for the designated population.

TOTAL SCH EARNED: Total number of student credit hours earned based on the Student Credit Hours Successfully Attempted data element. As above, this statistic is presented as a group average for the designated population.

AVERAGE LOAD: Average number of credit hours attempted each term attended, up to and including the current term. This is an average of averages. Each student's average load is first calculated for all terms for which the student enrolled for one or more credit hours. Then this statistic is averaged across all members of the designated population.

SCH COMPLETION RATIO: Ratio of the total number of Student Credit Hours Attempted by each student up to and including the current term, divided by the total number of Student Credit Hours Successfully Completed by that student over the same period. The ratio is 1.000 for a student who successfully completes all courses. The completion ratio is calculated first for each student based on actual enrollments and completions. Then an average is prepared for the designated subpopulation of which the student is a member.

CUMULATIVE OVERALL GPA: Average of term grade point averages for work in all courses for which grades were received, for all terms in which a student was enrolled up to and including the current term. This is a cumulative average based upon all cohort records. Because the tracking system does not record completed incompletes, this statistic may not directly match the cumulative GPA in the student's permanent record.

CUMULATIVE NON-REMEDIAL GPA: Average of all term grade point averages for work in non-remedial courses for which grades were received, for all terms in which a student was enrolled up to and including the current term.

PERCENT WITH GPA GREATER THAN OR EQUAL TO 2.00: Percentage of students in the cohort whose cumulative overall grade point average is greater than or equal to 2.00.

PERCENT STARTERS COMPLETING: Percentage of students in the cohort who have successfully completed a degree program in any term up to and including the current term. This entry is identical to the completers column in the Progress Report.

NUMBER OF TERMS TAKEN TO COMPLETE PROGRAM: For those students completing a program only, the average number of terms in which a student registered for one or more credit hours, up to and including the term in which a degree was received. Like Number of Terms Attended, this is an absolute average calculated across each designated student subpopulation.

Row Variables:

The row variable definitions and labels employed for the Performance Report are identical to those used in the Progress Report. As a result, only a sample page is illustrated.

Institution-Level Performance Report

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Basic Demographic Elements

	Total Students	No. Terms Attended	Total SCH Earned	Average Load	SCH Completion Ratio	Cumulative Overall GPA	Cumulative Non-Remedial GPA	% With Overall GPA $\geq$ 2.0	% Starters Completing	No. of Terms Taken to Complete Program
Total:										
Gender:										
Male										
Female										
Age:										
Under 18										
18-21										
22-24										
25-34										
35-44										
45-54										
55 and Over										
Ethnicity:										
American Indian or Alaskan Native										
Asian or Pacific Islander										
Black, Non-Hispanic										
Hispanic										
Nonresident Alien										
White, Non-Hispanic										
Citizenship:										
United States Citizen										
Foreign National										
Nonresident Alien										
Resident Alien										
Residence at Time of Entry:										
In-District										
In-State										
Out-of-State										
Foreign										

Institution-Level Remediation Status Report 1

This report presents summary statistics on the status of student competency and remediation for identified subpopulations. It is intended to apply to credit-seeking students only. Three status indicators are provided for each of three basic skills areas--reading, writing, and computation. In all cases, the classifications, "satisfactory" and "completion of remediation," are based on the institution's own standards and record-keeping procedures. This report is produced in two versions: (1) absolute numbers of students within the cohort and (2) percentages of the total. Variables for each of the three basic skills areas are defined as follows.

Column Variables:

TESTED SATISFACTORY: Students who have achieved a satisfactory or above score on the institution's own local test for determining competency in the designated basic skills area.

TESTED UNSATISFACTORY AND REMEDIATION IS COMPLETE: Students who have not achieved a satisfactory score on the institution's own local test for determining competency, and who have enrolled for, and by the institution's own definition have successfully completed, a program of remediation.

TESTED UNSATISFACTORY AND REMEDIATION IS INCOMPLETE: Students who have not achieved a satisfactory score, and who have not successfully completed a program of remediation.

Row Variables:

The row variables employed by this report are identical to those used in the Progress and Performance reports. As a result, only a sample page is illustrated.

Institution-Level Remediation Status Report 1

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

by Basic Demographic Elements

	Reading			Writing			Computation		
		Tested Unsatisfactory and Remediation is:			Tested Unsatisfactory and Remediation is:			Tested Unsatisfactory and Remediation is:	
	Tested Satisfactory	Complete	Incomplete	Tested Satisfactory	Complete	Incomplete	Tested Satisfactory	Complete	Incomplete
Total:									
Gender:									
Male									
Female									
Age:									
Under 18									
18-21									
22-24									
25-34									
35-44									
45-54									
55 and Over									
Ethnicity:									
American Indian or Alaskan Native									
Asian or Pacific Islander									
Black, Non-Hispanic									
Hispanic									
Nonresident Alien									
White, Non-Hispanic									
Citizenship:									
United States Citizen									
Foreign National									
Nonresident Alien									
Resident Alien									
Residence at Time of Entry:									
In-District									
In-State									
Out-of-State									
Foreign									

Institution-Level Remediation Status Report 2

This report provides detailed indicators of the success of an institution's remediation effort. Included are the numbers and percentages of students achieving proficiency, completion rates, and performance in subsequent coursework. Column variables describe the indicators. Row variables provide student remediation status in each of the three defined basic skills areas. Like the above report, it is intended to apply to credit-seeking students only. In this report percentage entries in the Total Students column represent the percentage of total within the column. Percentage entries in all other columns represent the percentage of students included in the *row* total, distributed *across* the columns.

Report variables are defined as follows:

Column Variables:

TOTAL STUDENTS: The total number of students in the cohort who are members of each identified remediation group as defined by the variables described below.

NUMBER ACHIEVING PROFICIENCY IN YEAR 1, 2, 3: The number and percentage of students in the cohort who achieved proficiency status in the identified deficiency, as determined by the institution's own assessment procedures and coded in the Proficiency Level Attained data element, in each of three elapsed years from the point of entry.

COMPLETION OF NON-REMEDIAL COURSES: This set of statistics indicates the performance of students in all non-remedial coursework up to and including the current term. Definitions for sub-elements are identical to those used in the Institution-Level Performance Report.

GRADE POINT AVERAGE: The current grade point average of the student in non-remedial courses only.

NUMBER COMPLETED: The number and percentage of students in the cohort who have successfully completed a program as of the current term. This definition is identical to that used in the Institution-Level Progress Report.

PERFORMANCE IN NON-REMEDIAL COURSES: This set of statistics provides greater detail about student performance in non-remedial coursework. Grades earned for hours enrolled for in non-remedial courses are distributed across grade categories. Completion ratios are defined in the

same manner as in the Institution-Level Performance Report, and are broken down by the indicated categories.

REMEDIATION ATTEMPTED AND COMPLETED: Includes only students who attempted remediation at some point up to and including the current term, categorized by whether or not they successfully achieved proficiency. Source data elements are the Remediation Level Attempted and Proficiency Level Attained elements for all terms prior to and including the current term.

PERFORMANCE IN DESIGNATED NON-REMEDIAL COURSES: This set of statistics further reveals the effectiveness of remediation by presenting information about student performance in particular courses where remediation skills will be used. Includes student performance in the first relevant college-level course that corresponds with a particular deficiency as indicated by the appropriate row variable. Designated Non-Remedial courses are defined as 1) Non-remedial college-level courses taken in the term following the completion of remediation for Reading, 2) First College-Level English Course for Writing, and 3) First College-Level Mathematics Course for Computation, as indicated in their respective term tracking data elements. Performance categories are defined as indicated in earlier definitions of the same name.

Row variables for this report are first broken down by area of proficiency similar to the definitions used in the column headings of the Institution- Level Remediation Status Report 1 described previously. Separate breakdowns are provided for three proficiency areas--Reading, Writing, and Computation. Within each of these areas, the following row variables are used:

SATISFACTORY: Includes students assessed as having achieved proficiency in the skill area at time of entry as determined by the institution's own local procedures and embodied in the Proficiency Achieved data element.

IN NEED, ATTEMPTED FIRST TERM: Includes students assessed as not having achieved proficiency as defined above, and attempting remediation in their first term of enrollment as indicated by the Remediation by Level Attempted term tracking data element.

IN NEED, DID NOT ATTEMPT: Includes students assessed as not having achieved proficiency as defined above, and not attempting remediation in their first term of enrollment as defined above.

Institution-Level Remediation Status Report 2

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

	Total Students	No. Achieving Proficiency in: Year 1	Year 2	Year 3	Completion of Non-Remedial Courses: Total SCH Attempted	Total SCH Completed	SCH Completion Ratio	GPA	Number Completed
Total:									
Remediation Status at Time of Entry--Reading:									
Satisfactory Reading Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Writing:									
Satisfactory Writing Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Computation:									
Satisfactory Computation Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									

Institution-Level Remediation Status Report 2

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

	Total	Performance in Non-remedial Courses						
		Number of Hours with Grade of				Completion Ratio for Courses Enrolled for		
		A-C	D	F	Not Completed	75-100%	50-74%	Less Than 50%
Total:								
Remediation Status at Time of Entry--Reading:								
Satisfactory Reading Skills								
In Need, Attempted First Term:								
In Need, Did Not Attempt:								
Remediation Status at Time of Entry--Writing:								
Satisfactory Writing Skills								
In Need, Attempted First Term:								
In Need, Did Not Attempt:								
Remediation Status at Time of Entry--Computation:								
Satisfactory Computation Skills								
In Need, Attempted First Term:								
In Need, Did Not Attempt:								

Institution-Level Remediation Status Report 2

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

	Total	Remediation		Performance in Designated Non-Remedial Courses					
		Attempted and Completed:		Number Attempting Course	Number Completing Course	GPA in Course	Grade in Course		
		Successfully	Unsuccessfully				A-C	D	F
Total:									
Remediation Status at Time of Entry--Reading:									
Satisfactory Reading Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Writing:									
Satisfactory Writing Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Computation:									
Satisfactory Computation Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									

Institution-Level Remediation Status Report 3

This report provides detailed information on the performance of particular student subpopulations with respect to remediation in each of three basic skills areas. Like previous remediation reports, it is intended to apply to credit-seeking students only. Column variables consist of remediation status and performance indicators identical to those in Institution-Level Remediation Status Reports 1 and 2. Row variables consist of demographic elements and are similar to those used in Institution-Level Progress and Performance reports. As a result, only a sample page of the report is illustrated. These reports are parameter-driven, and can be generated for each of six subpopulations defined by the three basic skills areas and whether or not the student tested satisfactory or above in each area.

The title specifies the particular population for which the report is run. Separate reports, for example, are generated for students assessed as satisfactory in reading, in writing, and in computation; and for those assessed as unsatisfactory in each of the three competency areas.

Institution-Level Remediation Status Report 3

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

for Students Assessed as [Satisfactory/Unsatisfactory]in [Reading/Writing/Computation]

by Basic Demographic Elements

	Total Students	No. Achieving Proficiency in: Year 1	Year 2	Year 3	— Completion of Non-Remedial Courses: — Total SCH Attempted	Total SCH Completed	SCH Completion Ratio	GPA	Program Completion: Percent Graduated	No. Terms Taken to Complete
Total:										
Gender:										
Male										
Female										
Age:										
Under 18										
18-21										
22-24										
25-34										
35-44										
45-54										
55 and Over										
Ethnicity:										
American Indian or Alaskan Native										
Asian or Pacific Islander										
Black, Non-Hispanic										
Hispanic										
Nonresident Alien										
White, Non-Hispanic										
Citizenship:										
United States Citizen										
Foreign National										
Nonresident Alien										
Resident Alien										
Residence at Time of Entry:										
In-District										
In-State										
Out-of-State										
Foreign										

State Cohort Progress Report

This report provides summary information on student progress to the State Coordinating Board for Higher Education. It may be run for the entire cohort population, for credit-seeking students only, or for non- credit students. The report presents both the absolute number of students and the percentage of the beginning cohort persisting at the institution from term to term, and graduating or completing a program. Column headers consist of a longitudinal series of terms for which these indicators can be generated. Row variables consist of a number of summary demographic groupings.

All percentages in this report are calculated on the basis of their associated row totals. Note that completion percentages in this report are cumulative. That is, any entry includes all those students who had completed a degree or certificate by the end of the indicated term.

Variables used in this report are defined as follows:

Column Variables:

TOTAL IN COHORT: The total number of students in the cohort who are members of the demographic group described by the row labels. These totals are identical to those used in all other reports. They also correspond to Term 1 enrollments.

TERM 2/TERM 18: Includes (1) the number of students in the cohort actively enrolled in the institution for each elapsed term after entry as indicated, and (2) the number who have completed a program as of the term indicated. "Term 5" entries thus include an entry for all students actively enrolled as of the fifth term after the cohort's first term of academic history, and an entry for those who had completed programs in terms up to and including the fifth term. Active enrollment is defined as registering for at least one credit hour. Completion is defined in terms of the Type of Degree/Certificate Awarded term tracking data element. Entries are provided for both absolute numbers and percentages of the total. Only the first six terms of the eighteen-term tracking period are illustrated.

Row variables used in this report are demographic categories similar to those employed in Institution-Level reports, but contain less detail. Gender, Race/Ethnic, Program Track, Economic and Academic Disadvantage, Student Objective, and Intended Duration are all defined as in the Institution-Level Progress and Performance Reports. Remediation categories are defined for each of three basic proficiency areas as (1) those with satisfactory skills as determined by locally defined assessment procedures and (2) those assessed as in need of remediation as

determined by these same procedures. Both categories are derived from Remediation Status at Time of Entry data elements for their respective proficiency areas.

PERFORMANCE IN DESIGNATED NON-REMEDIAL COURSES: Includes student performance in the first relevant college-level course that corresponds with a particular deficiency as indicated by the appropriate row variable. Designated Non- Remedial courses are defined as 1) non-remedial college-level courses taken in the term following the completion of remediation for *Reading*, 2) First College-Level English Course for *Writing*, and 3) First College-Level Mathematics Course for *Computation*, as indicated in their respective term tracking data elements. Performance categories are defined as indicated in earlier definitions of the same name.

State Cohort Progress Report

for [Cohort Name] Cohort at [Institution Name]

	Total in Cohort/ Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Total Still Enrolled:						
Total Completed:						
Gender:						
Male						
Still Enrolled						
Completed						
Female						
Still Enrolled						
Completed						
Race/Ethnic Identification:						
American Indian or Alaskan Native						
Still Enrolled						
Completed						
Asian or Pacific Islander						
Still Enrolled						
Completed						
Black, Non-Hispanic						
Still Enrolled						
Completed						
Hispanic						
Still Enrolled						
Completed						
Nonresident Alien						
Still Enrolled						
Completed						
White, Non-Hispanic						
Still Enrolled						
Completed						
Program Track:						
Vocational						
Still Enrolled						
Completed						
Academic						
Still Enrolled						
Completed						
Unclassified						
Still Enrolled						
Completed						

State Cohort Progress Report

for [Cohort Name] Cohort at [Institution Name]

	Total in Cohort/ Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Economically Disadvantaged:						
Still Enrolled						
Completed						
Academically Disadvantaged:						
Still Enrolled						
Completed						
Student Objective in Attending College:						
Get a Job						
Still Enrolled						
Completed						
Improve Skills Needed for Current Job						
Still Enrolled						
Completed						
Get a Better Job						
Still Enrolled						
Completed						
Earn One-Year Certificate						
Still Enrolled						
Completed						
Earn Two-Year Degree						
Still Enrolled						
Completed						
Earn Four-Year Degree						
Still Enrolled						
Completed						
Personal Enrichment						
Still Enrolled						
Completed						
Other						
Still Enrolled						
Completed						

State Cohort Progress Report

for [Cohort Name] Cohort at [Institution Name]

	Total in Cohort/ Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Intended Duration:						
One Term Only						
Still Enrolled						
Completed						
Two Terms						
Still Enrolled						
Completed						
One Year						
Still Enrolled						
Completed						
Two Years						
Still Enrolled						
Completed						
Three Years						
Still Enrolled						
Completed						
More Than Three Years						
Still Enrolled						
Completed						

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State Cohort Progress Report

for [Cohort Name] Cohort at [Institution Name]

	Total in Cohort/ Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Remediation Status at Time of Entry--Reading:						
Satisfactory Reading Skills						
Still Enrolled						
Completed						
In Need of Reading Remediation						
Still Enrolled						
Completed						
Remediation Status at Time of Entry--Writing:						
Satisfactory Writing Skills						
Still Enrolled						
Completed						
In Need of Writing Remediation						
Still Enrolled						
Completed						
Remediation Status at Time of Entry--Computation:						
Satisfactory Computation Skills						
Still Enrolled						
Completed						
In Need of Computation Remediation						
Still Enrolled						
Completed						

State-Level Remediation Status Report

This report provides summary statistics on the remediation status of students to the State Coordinating Board for Higher Education. It is appropriately run only for credit-seeking students. The format and contents of the report are very similar to the Institution-Level Remediation Status Report 1. Column variables are identical to those contained in the corresponding Institution-Level report. Row variables are demographic categories that are identical to those described in the State-Level Progress report.

State-Level Remediation Status Report

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

	Reading			Writing			Computation		
	Tested Satisfactory	Tested Unsatisfactory and Remediation is: Complete	Incomplete	Tested Satisfactory	Tested Unsatisfactory and Remediation is: Complete	Incomplete	Tested Satisfactory	Tested Unsatisfactory and Remediation is: Complete	Incomplete
Total:									
Gender:									
Male									
Female									
Ethnicity:									
American Indian or Alaskan Native									
Asian or Pacific Islander									
Black, Non-Hispanic									
Hispanic									
Nonresident Alien									
White, Non-Hispanic									
Learning Disability:									
Economically Disadvantaged:									
Academically Disadvantaged:									
Program Track:									
Vocational									
Academic Unclassified									
Student Objective in Attending College:									
Get a Job									
Improve Skills Needed for Current Job									
Get a Better Job									
Earn One-Year Certificate									
Earn Two-Year Degree									
Earn Four-Year Degree									
Personal Enrichment									
Other									

State-Level Remediation Evaluation Report

This report provides summary information on the effectiveness of institutional remediation programs to the State Coordinating Board for Higher Education. It is intended to apply only to credit-seeking students. Column headers consist of selected summary performance indicators identical to those used in Institution-Level Remediation Status Report 2. Row variables describe the remediation need and status of particular student subpopulations and are identical to those used in the corresponding Institution-Level Remediation Status Report.

State-Level Remediation Evaluation Report

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

	Total Students	No. Achieving Proficiency in: Year 1	Year 2	Year 3	— Performance in Non-Remedial Courses: Total SCH Attempted	Total SCH Completed	SCH Completion Ratio	Overall GPA	% Overall GPA ≥ 2.0
Total:									
Remediation Status at Time of Entry--Reading:									
Satisfactory Reading Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Writing:									
Satisfactory Writing Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Computation:									
Satisfactory Computation Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									

State-Level Remediation Evaluation Report

for XXXXXXXXXXX Cohort as of XXXXXXXXXXXX Term

	Total	Remediation		Performance in Designated Non-Remedial Courses					
		Attempted and Completed:		Number Attempting Course	Number Completing Course	GPA in Course	Grade in Course		
		Successfully	Unsuccessfully				A-C	D	F
Total:									
Remediation Status at Time of Entry--Reading:									
Satisfactory Reading Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Writing:									
Satisfactory Writing Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									
Remediation Status at Time of Entry--Computation:									
Satisfactory Computation Skills									
In Need, Attempted 1st Term:									
In Need, Did Not Attempt:									

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Chapter 6

Interpreting Results and Using the Database

In interpreting and using results, it is important to recall that any student tracking system is designed to accomplish two distinct purposes. First, it provides important summary information on student progress and performance useful for accountability--for example, in reporting to a State Coordinating Board or to other external agencies such as accrediting associations. Many of the standard reports generated by LONESTAR, as in any system, are intended primarily to serve this purpose. At least as important, a tracking system provides management information. Results can be used to guide overall institutional planning, be helpful in reviewing and revising curriculum sequences, provide an analytical foundation for retention and enrollment management programs, and be useful in recruitment.

The purpose of this chapter is to present briefly some guidelines for using results generated by tracking systems like LONESTAR for institutional planning and management. First, some interpretive cautions and suggestions are presented for the standard reports produced by any tracking system. Secondly, some suggestions for *ad hoc* studies that use the tracking database are provided.

1. **Interpreting and Using Standard Reports**: All standard reports generated by a system such as LONESTAR present information of considerable use for institutional planning and management. Many results, however, must be treated with caution. In general, when reviewing report results, users should bear in mind the following guidelines.

   a. **All variables in the standard reports are intended as indicators of student behavior.** They are not appropriately used, in themselves, to make summative judgments about the effectiveness of programs or services. Rather they are intended to suggest directions for further inquiry and to generate discussions about possible improvements in curriculum and service programs.

   b. **Because they are indicators, many of the entries in standard reports are independent of one another**. It is important to recognize that most persistence or performance categories are not mutually exclusive. In LONESTAR's

Progress reports, for example, a given student may appear in both a completed and a still attending category, because of reenrollment, after graduation.

c. **Because standard reports are generally snapshots of the status of a given cohort group at a particular point in time, special care in interpretation is required.** In LONESTAR's Progress reports, the inclusion of a given student in the drop-out or first term only categories is provisional--as of the term for which the report was run. This status may change in the next term, or any time thereafter. For analytical purposes, it can be useful to run each report for a succession of terms and to compare the results.

d. **Reports generated by tracking systems are intended to be mutually reinforcing, and should be examined as such.** LONESTAR's Progress and Performance reports contain statistics that can be checked for consistency with one another. If a given Progress Report indicates that a particular student population contains a substantial proportion of starters still enrolled, this may be because average loads are quite low, and not because students in the population are encountering academic difficulty. Results of this kind should always be examined in concert, not one at a time.

e. **Small cell sizes (or numbers of people in a given category) may produce quite unstable results.** It is always important to examine any report entry to ascertain the number of cases on which the calculation is based. Results that appear significant and dramatic may be only the result of a few cases.

f. **In reports that examine persistence and performance by program, it is important to recognize that students may change programs over time.** While the LONESTAR tracking database contains information on student program choice term by term, the reports are driven off a student's initial program choice. If this is not known by users, misinterpretation may result. Special studies may be constructed to examine changes in program over time.

For local analytical purposes, an important capability of the system is that any standard report can be run for any definable subpopulation within a particular cohort file. This is a particularly useful feature for a tracking system. Most standard reports contain single-variable breakdowns of the population covered. For example, separate data entries are provided for male and female students. By running standard reports on a selected subpopulation, much finer detail can be provided. The LONESTAR Progress Report might be run for students drawn from a particular geographic region or from a particular set of high school districts only; differences between male and female persistence and performance might then be compared within that subpopulation. For purposes of program audit or review, running the entire package of reports for each program can be a useful exercise. When using subpopulations as the basis for reporting, it is important to remember cautions about small cell sizes.

2. **Using the Database for Ad Hoc Studies**: The longitudinal student enrollment records that comprise the heart of any tracking database contain enormous amounts of potentially useful information. Standard reports generated by the system only begin to tap the analytical potential of this database. As a result, many institutions will wish to access the database to conduct special studies of student persistence, performance, and behavior.

   In most cases, *ad hoc* studies will be undertaken using a commercially available statistical software package such as SPSS or SAS. In addition to increasing flexibility, use of a standard statistical package also allows considerable increases in the sophistication with which *ad hoc* analyses can be undertaken. For example, in appropriate situations powerful statistical techniques such as multiple regression or discriminate analysis can be used. In LONESTAR, the basic SPSS code for defining and labeling variables and values is already developed. Only minor modifications in procedures statements are required to undertake a variety of local analyses. This represents a substantial advantage of using a commercial statistical package rather than locally devised programming to create and manipulate cohort files. If a commercial package is not used (or if a different one is used than that employed to create the database), new setup codes will need to be generated each time an analysis is undertaken.

   Examples of the kinds of *ad hoc* studies that might fruitfully be undertaken using the tracking database include the following:

   a. **Stop-Out Analyses** explicitly investigate patterns of interrupted enrollment--among whom such patterns tend to occur, when, and with what ultimate results. Stop-out behavior is one of the least understood elements of attendance, particularly in a community college setting where large numbers of adult, part-time students are served.

   b. **Load Analyses** explore changing patterns of student load to determine if particular groups are over-enrolling and consequently setting themselves up for failure. Rather than looking at average loads as reported in standard reports, these studies explicitly examine patterns of term-to-term loads for particular types of students for particular programs.

   c. **Program Change Studies** investigate patterns of student flow between programs over time. What programs tend to lose students and to whom do they lose them? If reasonably stable over time, results of such studies can help considerably in making program enrollment projections and in resource planning.

   d. **Remediation Analyses** provide detailed information about the effectiveness of institutional remediation efforts. While many of LONESTAR's standard reports provide summary information on the effectiveness of remediation, a range of *ad hoc* studies can be undertaken to shed light on such questions as the timing of remediation, when competencies are actually attained in a

program sequence, and the effectiveness of remediation for particular targeted student subpopulations.

e. **Retention "Early Warning" Studies** consist of multivariate regression or discriminate analyses of the predictors of dropping out. Results typically include projected or anticipated attrition tables for different types of students that can be used by individual counselors in placing students or in recommending remediation or special counseling. If consistent results are obtained on several cohorts, the results of such studies are also of considerable value in planning college-wide retention programs or in refining enrollment projections.

Appendix A

LONESTAR Data Elements

Long file name: Basic Demographic
Short file name: BASDEMO

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Gender	GENDER	N	1	10
Date of Birth	DOB	N	6	11
Race/Ethnic Identification	RACE	N	1	17
Citizenship	CITIZEN	N	1	18
Residence at Time of Entry	RESIDENC	N	1	19
Physical Disability--Deaf	PDDEAF	N	1	20
Physical Disability--Deaf-Blind	PDDEAFBL	N	1	21
Physical Disability--Hard of Hearing	PDHHEAR	N	1	22
Physical Disability--Orthopedically Impaired	PDORTHO	N	1	23
Physical Disability--Other Health Impaired	PDOTHER	N	1	24
Physical Disability--Speech Impaired	PDSPEECH	N	1	25
Physical Disability--Visually Handicapped	PDVISUAL	N	1	26
Learning Disability	LEARNDIS	N	1	27
Economically Disadvantaged	ECONDIS	N	1	28
Academically Disadvantaged	ACADDIS	N	1	29
Current Employment	CURREMP	N	1	30

Long file name: Basic Demographic--Optional
Short file name: OPTDEMO

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Zip Code	ZIPCODE	N	5	10
Highest Level of Education Obtained by Father	EDUFATH	N	1	15
Highest Level of Education Obtained by Mother	EDUMOTH	N	1	16
Marital Status	MARITAL	N	1	17
Number of Dependents	DEPENDS	N	1	18
Special Populations	SPECPOP	N	1	19
Dependency Status	DEPSTAT	N	1	20

Long file name: Educational Background
Short file name: EDUBACK

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Last High School Attended	LASTHS	N	9	10
Type of High School Award	HSAWARD	N	1	19
Date of High School Diploma or Its Equivalent	HSDIDATE	N	4	20
High School Grade Point Average	HSGPA	N	3	24
Last College Attended	LASTCOLL	N	6	27
Previous College-Level Academic Experience	PREVACAD	N	1	33
Remediation Status at Time of Entry--Reading	RSREAD	N	1	34
Remediation Status at Time of Entry--Writing	RSWRITE	N	1	35
Remediation Status at Time of Entry--Computation	RSCOMP	N	1	36
Limited English Speaking Proficiency	LIMENG	N	1	37

Long file name: Educational Background--Optional
Short file name: OPTBACK

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
High School Rank	HSRANK	N	4	10
Size of High School Graduating Class	HSCLASS	N	4	14
High School Track	HSTRACK	N	1	18
Hours Transferred for Collegiate Credit	HOURTRAN	N	3	19
Initial Performance on Local Proficiency Exam--Reading	PLPEREAD	N	3	22
Initial Performance on Local Proficiency Exam--Writing	PLPEWRIT	N	3	25
Initial Performance on Local Proficiency Exam--Computation	PLPECOMP	N	3	28
Initial Performance on State-Mandated Proficiency Exam--Reading	PSPEREAD	N	3	31
Initial Performance on State-Mandated Proficiency Exam--Writing	PSPEWRIT	N	3	34
Initial Performance on State-Mandated Proficiency Exam--Computation	PSPECOMP	N	3	37

Long file name: Enrollment Status
Short file name: ENRSTAT

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
First Term of Academic History	FTACHIST	N	3	10
Admission Status	ADMSTAT	N	1	13
Basis of Admission	BASISADM	N	1	14
Financial Aid Status	FINAIDST	N	1	15
Time of Attendance	TIMEATT	N	1	16
Location of Instruction	LOCINSTR	N	1	17
Initial Program at Time of Entry	INITPROG	N	6	18
Program Track	PROGTRK	N	1	24
Student Objective in Attending College	STUDOBJ	N	1	25
Intended Duration	INTDUR	N	1	26
Term of Enrollment in First College-Level English Course	TENRENG	N	3	27
Performance in First College-Level English Course	PERFENG	N	1	30
Term of Enrollment in First College-Level Math Course	TENMATH	N	3	31
Performance in First College-Level Math Course	PERFMATH	N	1	34

Long file name: Enrollment Status--Optional
Short file name: OPTSTAT

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Type of Financial Aid Award	FINAWD	N	1	10

Long file name: Beginning of Term Update
Short file name: BOTUPDT

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Term Identification	TERMIDnn	N	3	10
Student Credit Hours Attempted as of the Official State Reporting Date	SCHATTnn	N	2	13
Student Credit Hours Attempted as of the Official State Reporting Date for Non-Remedial Courses	ATTNRnn	N	2	15
Current Program	PRENRTnn	N	6	17
Remediation by Level Attempted--Reading	RAREADnn	N	1	23
Remediation by Level Attempted--Writing	RAWRITnn	N	1	24
Remediation by Level Attempted--Computation	RACOMPnn	N	1	25

Long file name: End of Term Update
Short file name: EOTUPDT

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Term Identification	TERMIDnn	N	3	10
Student Credit Hours Attempted for Which Grades Were Received	SATTGRnn	N	2	13
Student Credit Hours Successfully Completed	SATTSnn	N	2	15
Grade Point Average	TRMGPAnn	N	4	17
Student Credit Hours Attempted for Which Grades Were Received for Non-Remedial Courses	CATTGNnn	N	2	21
Student Credit Hours for Which the Grade A, B, or C Was Received for Non-Remedial Courses	CATTNRnn	N	2	23
Student Credit Hours for Which the Grade D Was Received for Non-Remedial Courses	CATNRDnn	N	2	25
Grade Point Average for Non-Remedial Courses	TMGPANnn	N	4	27
Academic Standing	ACSTANnn	N	1	31
Proficiency Level Attained--Reading	PAREADnn	N	1	32
Proficiency Level Attained--Writing	PAWRITnn	N	1	33
Proficiency Level Attained--Computation	PACOMPnn	N	1	34
Type of Degree/Certificate Awarded	DEGnn	N	1	35
Term GED Activity	TERGEDnn	N	1	36
Term ESL Activity	TERESLnn	N	1	37
Term Non-Credit Activity	TERNCRnn	N	1	38

Long file name: End of Term Update--Optional
Short file name: OPTTRK

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Term Identification	TERMIDnn	N	3	10
Honor Points for All Courses	PTSALLnn	N	4	13
Honor Points for Non-Remedial Courses	PTSNRnn	N	4	17
Performance on Local Proficiency Exam--Reading	PLREADnn	N	3	21
Performance on Local Proficiency Exam--Writing	PLWRITnn	N	3	24
Performance on Local Proficiency Exam--Computation	PLCOMPnn	N	3	27
Hours Awarded by Assessment of Learning	HRAWARnn	N	2	30

Long file name: Follow-Up Elements--Optional
Short file name: OPTFOLL

DATA ELEMENT	SHORT NAME	TYPE	LENGTH	START COLUMN
Student ID Number	SSN	N	9	1
Transcripts Requested	TRANREQ	N	6	10
Transferred to Another Institution	TRANINST	N	6	16
Credit Hours Accepted by Transfer Institution	CHACCEPT	N	3	22
First Term Enrolled in Transfer Institution	FTENRTRA	N	3	25
Program Enrolled in at Transfer Institution	TRANPROG	N	6	28
First Degree Attained in Transfer Institution	TRANDEG	N	1	34
Program of First Degree Awarded	TRANDGPR	N	6	35
Employment Status at Time of Follow-Up	FEMPSTAT	N	1	41
Employment in Field for Which Trained	EMPINFLD	N	1	42
Average Hourly Salary/Wage Rate in Current Job	AVGWAGE	N	4	43
Employer Rating--Technical Knowledge	ERTECH	N	1	47
Employer Rating--Work Attitude	ERATTIT	N	1	48
Employer Rating--Work Quality	ERQUALIT	N	1	49

Appendix B

Sample Pages from the LONESTAR Data Element Dictionary

This *Data Element Dictionary* is intended to accompany the *Implementation Manual* describing operations procedures for the Texas Community College Tracking system. The *Dictionary* contains complete descriptions of all required and optional data elements used by the Tracking System, and is to be considered the final authority with respect to data element definition. Changes in any part of the *Data Element Dictionary* must be agreed upon by institutional participants through their representation on the Users' Coordinating Committee that provides oversight for the System. An important responsibility of the Committee is to preserve the commonality and integrity of these definitions.

Each data element is allotted a separate page in the *Dictionary*. For each element, the following information is provided:

Element Title: The official data element name used in all references to the element in the *Implementation Manual* and in other system communications. The title is intended to be descriptive of the contents and intent of the element.

Element Number: Each data element is assigned an identification number for reference purposes. The first portion of the element number refers to the tracking system file in which the element resides, as described in the *Implementation Manual*. For example "DMR" refers to the Basic Demographic File. The second portion of the number refers to the position in that file that the element occupies. "DMR05" therefore refers to the fifth data element in the Basic Demographic File.

Required: Tracking System data elements are either required or optional. All required elements must be maintained by all participants, although some allow local definition and code specification. Optional elements may be included by institutions at their discretion. If an institution uses an optional element, however, it should also employ the supplied definition and coding structure.

Short Name: This is a unique data element name used by SPSS software supplied for optional use by institutions in compiling longitudinal student enrollment records and in generating system reports. The name is intended to convey the element title as fully as possible within the variable name length constraints of SPSS.

Definition: A full textual definition of the attribute or characteristic to which the data element refers. Where appropriate, operational definitions or procedures for institutions to use in employing the definition are specified. Full textual definitions for each code category within the data element are also provided.

Source of Definition: The source of data element and code category definitions is indicated. Sources for these definitions, where supplied, are as follows:

EDC - Texas Educational Data System

IPEDS - Integrated Postsecondary Education Data System

COPA - Council on Postsecondary Accreditation recommended data collection standards CES - Center for Education Statistics definitions for national reporting

NCHEMS - National Center for Higher Education Management Systems definitions recommended for institutional use.

Element Type: Elements are numeric or alphanumeric. The coding categories employed in the system require numeric codes if SPSS software is to be employed.

Element Length: The number of characters or digits used by the element.

Codes: A unique code is assigned to each code category within each data element as defined above. Because these codes are embedded in SPSS system software, they should not be altered if SPSS is used. Zeros constitute missing or empty codes. If SPSS is used, it is important to recognize that the SPSS software does distinguish between zeros and blanks.

Tracking System File: Provides the descriptive name of the Tracking System File in which the data element initially resides, and under which it is referenced in the *Implementation Manual* and SPSS system software. The "short name" provided in parentheses is the SPSS identifier for the appropriate file used in the supplied SPSS software.

Source of Data: In order to fully document the system, the actual local source of data for this element is to be provided here by each institution. This entry should be completed by each institution to encompass: 1) the data collection procedure used to collect the information (e.g., "collected at registration") and 2) the actual location of the data in the local student record system (e.g., "Student Master Transcript File--Element #----).

Data elements are listed in the Dictionary in the order in which they occur in the various tracking system files. This is roughly the logical order in which they are locally compiled, and also roughly corresponds to the layout of the longitudinal student enrollment record that constitutes the analytical heart of the tracking system. An index at the end of the

Dictionary provides a complete cross-reference for all data elements in alphabetical order by Element Title.

In some cases, these definitions will require institutions to modify the way in which basic student record data is structured and collected. If the definitions supplied are insufficient to guide such changes, questions should be brought to the attention of the Users' Coordinating Committee. In limited cases (for example, student goal and intended duration), a particular data element will require an institution to collect new data. Again, the Coordinating Committee should be consulted before data collection procedures are actually implemented.

Element Title: Race/Ethnic Identification

Element Number: DMR04 **Required:** Yes

Short Name: RACE

Definition: Categories used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. A person may be counted in only one group.

a) White, Non-Hispanic. A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
b) Black, Non-Hispanic. A person having origins in any of the black racial groups of Africa.
c) Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
d) Asian or Pacific Islander. A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or Pacific Islands.
e) American Indian or Alaskan Native. A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation and community recognition.
f) Nonresident Alien. A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

Source of Definition: IPEDS **Element Type:** Numeric **Element Length:** 1

Codes:
1 - White, Non-Hispanic
2 - Black, Non-Hispanic
3 - Hispanic
4 - Asian or Pacific Islander
5 - American Indian or Alaskan Native
6 - Nonresident Alien

Tracking System File: Basic Demographic (BASDEMO)

Source of Data:

Element Title: Financial Aid Status

Element Number: ESR04 **Required:** Yes

Short Name: FINAIDST

Definition: The status of the student with respect to financial aid upon initial term of admission. Categories are:

a) Did not apply. Student did not apply for financial aid.
b) Applied. Student made application to receive financial aid.
c) Applied and determined eligible. Student made application and was determined eligible to receive financial aid.
d) Applied, determined eligible, and awarded. Student made application to receive financial aid, was determined eligible, and was awarded an amount.
e) Applied, determined eligible, awarded, and collected. Student made application to receive financial aid, was determined eligible, was awarded an amount, and collected the award.

These categories are meant to be applied hierarchically. That is, a student applying for financial aid, but who was not determined eligible would be assigned to code 2. A student who progressed to the point of award but never collected funds is assigned to code 4. It is understood that for some institutions only some of these categories can be assigned. For example, institutions may at their discretion use only categories a, c, and d.

Source of Definition: NCHEMS **Element Type:** Numeric **Element Length:** 1

Codes: 1 - Did Not Apply
2 - Applied
3 - Applied and Determined Eligible
4 - Applied, Determined Eligible, and Awarded
5 - Applied, Determined Eligible, Awarded, and Collected

Tracking System File: Enrollment Status (ENRSTAT)

Source of Data:

REVISED 4/27/88

Element Title: Student Objective in Attending College

Element Number: ESR09 **Required:** Yes

Short Name: STUDOBJ

Definition: The primary reason a student reports for attending college.
a) Get a Job.
b) Improve Skills Needed in Current Job.
c) Get a Better Job.
d) Maintain Licensure
e) Earn a Certificate.
f) Earn a Two-Year Degree.
g) Earn Credit to Apply to a Four-Year Degree.
h) Personal Enrichment.
i) Other.
This is a self-reported item typically collected at registration. A suggested question text is: "What is your primary reason for attending [name of college]?"

Source of Definition: NCHEMS **Element Type:** Numeric **Element Length:** 1

Codes: 1 - Get a Job
2 - Improve Skills Needed in Current Job
3 - Get a Better Job
4 - Maintain Licensure
5 - Earn a Certificate
6 - Earn a Two-Year Degree
7 - Earn Credit to Apply to a Four-Year Degree
8 - Personal Enrichment
9 - Other

Tracking System File: Enrollment Status (ENRSTAT)

Source of Data:

Element Title: Student Credit Hours Attempted as of the Official State Reporting Date

Element Number: BTR02 **Required:** Yes

Short Name: SCHATTnn

Definition: The total number of credit hours a student is enrolled for in the term of record as of the designated census date for state reporting.

Source of Definition: NCHEMS **Element Type:** Numeric **Element Length:** 2

Codes: Two-digit numeric code. Leading zeros are not required.

Tracking System File: Beginning of Term Update (BOTUPDT)

Source of Data:

Element Title: Remediation by Level Attempted--Reading

Element Number: BTR05 **Required:** Yes

Short Name: RAREADnn

Definition: The level of formal remediation of an assessed deficiency attempted by the student in reading during the term of record. The level should reflect the level of proficiency that the student would have attained if the remediation were successfully completed. If no remediation is attempted during the term, the element is coded as zero.

Source of Definition: NCHEMS **Element Type:** Numeric **Element Length:** 1

Codes: Defined locally
1 - Lowest category assigned by the institution
7 - Highest category assigned by the institution and represents fully remediated or not in need of remediation

Tracking System File: Beginning of Term Update (BOTUPDT)

Source of Data:

Element Title: Proficiency Level Attained--Reading

Element Number: ETR09 **Required:** Yes

Short Name: PAREADnn

Definition: The assessed level of student proficiency in reading as of the term of record, determined by the institution for purposes of placement and remediation. Locally defined and locally supplied category.

Source of Definition: NCHEMS **Element Type:** Numeric **Element Length:** 1

Codes: Defined locally
1 - Lowest category assigned by the institution
7 - Highest category assigned by the institution and
. represents fully remediated or not in need of remediation

Tracking System File: End of Term Update (EOTUPDT)

Source of Data:

Element Title: Employment Status at Time of Follow-Up

Element Number: FU008 **Required:** No

Short Name: FEMPSTAT

Definition: The employment status of the student after completion or withdrawal from the program.

a) Employed Full-Time. Employed for 35 hours per week or more.
b) Employed Part-Time. Employed for less than 35 hours per week.
c) Employed as homemaker.
d) Not employed, seeking work.
e) Not employed, not seeking work.

Source of Definition: NCHEMS **Element Type:** Numeric **Element Length:** 1

Codes: 1 - Employed Full-Time
2 - Employed Part-Time
3 - Employed as Homemaker
4 - Not employed, seeking work
5 - Not employed, not seeking work

Tracking System File: Follow-Up Elements--Optional (OPTFOLL)

Source of Data: